OM nucleic - nucleic search, using sw model

Run on: November 12, 2003, 22:39:25 ; Search time 686 Seconds
(without alignments)
10722.986 Million cell updates/sec

Title: US-10-054-678-1
Perfect score: 2725
Sequence: 1 tcagtcgctgggccagcctg.....aagctcacacttgggctggc 2725

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 2552756 seqs, 1349719017 residues

Total number of hits satisfying chosen parameters: 5105512

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 120 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2725	100.0	2725	24	AAI70709	Human dopamine bet
2	1807.2	66.3	1812	24	AAD46711	Human DBH cDNA. H
3	1805.6	66.3	1812	24	AAD46714	Human DBH variant
4	1805.6	66.3	1812	24	AAD46715	Human DBH variant
5	1805.6	66.3	1812	24	AAD46716	Human DBH variant
6	1398	51.3	5540	18	AAT62548	IgSP-hPOMCdelACTH-
7	1393.4	51.1	3425	18	AAT62535	rTHdel-IRES-bDBH D
8	1393.4	51.1	3432	18	AAT62536	rTHdelKS-IRES-bDBH
9	1391.8	51.1	4499	18	AAT62543	IgSP-hPOMCdelACTH-
10	1016.8	37.3	30781	24	AAD46712	Human DBH genomic
c 11	689.4	25.3	821	22	AAK75860	Human immune/haema
12	318.6	11.7	358	21	AAC70719	Single nucleotide
c 13	258.4	9.5	18663	22	AAK75859	Human immune/haema
14	255.6	9.4	2782	23	ABL02837	Drosophila melanog
c 15	193	7.1	2037	24	ABL34297	Human immune syste
c 16	193	7.1	2037	24	AAD28399	Human chemically t
17	179.6	6.6	2037	24	ABL34296	Human immune syste
18	179.6	6.6	2037	24	AAD28398	Human chemically t
19	165	6.1	178	21	AAC70716	Single nucleotide
20	165	6.1	178	21	AAC70722	Single nucleotide
21	165	6.1	178	21	AAC70725	Single nucleotide
22	146.8	5.4	2150	22	AAS21338	Human cDNA sequenc
23	146.8	5.4	2150	25	ACA03697	cDNA encoding huma
24	146.8	5.4	2150	25	ACA04118	Human cDNA encodin
25	146.8	5.4	2150	25	ABX89235	DNA encoding novel
26	146.8	5.4	2982	22	AAD09953	Human drug metabol
27	141.8	5.2	1635	20	AAX77115	GC6 gene ORF seque
28	141.8	5.2	2178	20	AAX77111	Restriction fragme
29	141.8	5.2	2762	22	AAK94314	Human full-length
30	141.8	5.2	2970	20	AAX77114	DNA sequence of GC
31	140.6	5.2	2184	21	AAA26369	Human secreted pro
32	138.4	5.1	2189	21	AAA26451	Human secreted pro
33	117.6	4.3	1233	22	AAI59575	Human polynucleoti
34	113	4.1	29263	23	ABL02836	Drosophila melanog
35	105.6	3.9	121	21	AAC70713	Single nucleotide
36	102.8	3.8	1920	20	AAX77118	GS-GC6 fusion prot
c 37	90.4	3.3	2115	22	AAI61359	Human polynucleoti
38	65.8	2.4	3483	23	ABL09098	Drosophila melanog
39	63.8	2.3	74	21	AAC70728	Single nucleotide
40	60	2.2	60	24	ABN42351	Human spliced tran
41	50	1.8	1396	24	ABL41174	Cr-449-tandem fusi
42	50	1.8	1424	24	ABL41175	Cr-449-tandem-acti
43	49.8	1.8	1512	22	AAF58302	Human GTP-binding
44	49.4	1.8	51	22	AAL27423	Human SNP oligonuc
45	49.4	1.8	51	22	AAL33302	Human SNP oligonuc
46	48	1.8	729	22	AAK91934	Human cDNA 5'-end
47	48	1.8	729	22	AAK93344	Human cDNA clone r
48	46	1.7	27541	22	AAD17185	Streptomyces nours
49	46	1.7	125401	22	AAD17186	Streptomyces nours
50	45.4	1.7	360	23	ABL13021	Drosophila melanog
51	45.4	1.7	2466	25	ABX63251	Human cDNA #251 di
52	45	1.7	469	21	AAC39723	Zea mays DNA fragm
53	44.8	1.6	14738	22	AAL02949	Human reproductive
54	44.8	1.6	14738	22	AAL02951	Human reproductive
55	44.8	1.6	222930	24	ABK84349	Human cDNA differe
56	44.4	1.6	1208	15	AAQ64204	snaC gene encoding
57	44.4	1.6	5392	15	AAQ64201	Sequence comprisin
58	44.2	1.6	2562	22	AAH26469	Ancestral HIV-1 gr
59	44.2	1.6	2562	22	AAH26471	Semi-optimised anc
60	44.2	1.6	349980	24	ABQ81848	Bifidobacterium lo
61	43.6	1.6	1437	21	AAA51619	HIV gp120 coding r
62	43.6	1.6	1950	21	AAA51620	HIV gp140 coding r
63	43.6	1.6	2493	21	AAA51621	HIV gp160 coding r
64	43.6	1.6	2565	21	AAA51622	HIV gp160 and sign
65	43.6	1.6	2568	24	AAL44551	HIV-1 envelope pol
66	43.6	1.6	2568	24	ABL39956	Synthetic Env poly
67	43.2	1.6	2605	22	AAH20869	HIV-1 subtype (C/B
68	43	1.6	2131	24	ABL56175	Hordeum vulgare va
69	43	1.6	2141	24	ABL56177	Hordeum vulgare va
70	43	1.6	4451	23	ABA92722	Trichoderma reesei
71	43	1.6	4451	24	AAI72045	Chrysoporium CBH1
72	43	1.6	6094	21	AAA71428	Expression vector
73	43	1.6	7984	24	ABK91610	Modified HIV prote
74	43	1.6	9280	24	ABK91615	Modified HIV prote
75	43	1.6	9285	24	ABK91608	Modified HIV prote
76	42.8	1.6	1492	24	ABZ33740	Human TRICH encodi
77	42.8	1.6	2951	17	AAT36390	Soluble chitinase
78	42.8	1.6	2951	21	AAZ38243	Vibrio furnissii c
79	42.6	1.6	1629	22	AAF61067	P. putida KT2440-a
80	42.6	1.6	2035	22	AAH17607	Human cDNA sequenc
81	42.6	1.6	2360	25	ABX34499	Human mddt cDNA SE

c	82	42.6	1.6	349980	24	ABQ81846	Bifidobacterium lo
c	83	42.6	1.6	4403765	22	AAI99683	Mycobacterium tube
c	84	42.6	1.6	4411529	22	AAI99682	Mycobacterium tube
	85	42.2	1.5	713	24	ABQ55602	Human ovarian anti
	86	42.2	1.5	1666	24	ABZ12064	Human polynucleoti
	87	42.2	1.5	1738	22	AAH15376	Human cDNA sequenc
	88	42	1.5	968	24	AAD25855	Micrococcus luteus
c	89	42	1.5	20010	22	AAK73615	Human immune/haema
	90	42	1.5	53789	19	AAV21187	Amycolatopsis medi
	91	41.8	1.5	1089	25	ABZ37517	Streptomyces virid
	92	41.8	1.5	59816	25	ABZ37515	Streptomyces virid
c	93	41.8	1.5	59816	25	ABZ37516	Streptomyces virid
	94	41.6	1.5	782	22	AAC84576	Corn magnesium che
c	95	41.2	1.5	303	24	ABN21337	Human ORFX polynuc
	96	41.2	1.5	1607	18	AAT85878	Malassezia fungus
	97	41.2	1.5	2442	23	AAS51448	Pseudomonas aerugi
	98	41.2	1.5	3223	17	AAT33801	Human interleukin-
	99	41.2	1.5	3223	19	AAV27592	Human interleukin-
	100	41.2	1.5	3223	20	AAX01922	Human IL-17R cDNA.
	101	41.2	1.5	3223	21	AAA61240	Human IL-17R cDNA.
	102	41.2	1.5	3223	21	AAA51988	Human interleukin-
	103	41.2	1.5	3223	21	AAA52146	Human interleukin-
	104	41.2	1.5	3223	21	AAA59871	Human interleukin-
	105	41.2	1.5	3223	22	AAD02815	Human Interleukin-
	106	41.2	1.5	3223	22	AAF57188	Human IL-17R (hCTL
	107	41.2	1.5	14704	13	AAQ20685	PKS 741 insert con
	108	41	1.5	1371	19	AAV18080	Pig liver ribonucl
	109	41	1.5	1371	19	AAV18083	Chimeric pig/human
	110	41	1.5	2918	21	AAZ43922	S. tendae nikkomyc
	111	41	1.5	2919	21	AAZ24486	Streptomyces tende
	112	41	1.5	11649	24	ABK94712	Neurodegenerative
c	113	41	1.5	349980	24	ABQ81845	Bifidobacterium lo
	114	40.8	1.5	1299	21	AAA70506	Novel rat G-protei
	115	40.8	1.5	1299	22	AAH78506	Nucleotide sequenc
	116	40.8	1.5	1410	21	AAZ94665	Rat neuropeptide F
	117	40.8	1.5	1532	21	AAZ46950	Rat B5 receptor en
	118	40.8	1.5	1532	25	ABS57956	Rat G protein coup
c	119	40.8	1.5	2122	22	AAF60839	Pseudomonas sp exp
	120	40.8	1.5	2529	23	AAS54215	Pseudomonas aerugi

ALIGNMENTS

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RESULT 1
AAI70709
ID   AAI70709 standard; cDNA; 2725 BP.
XX
AC   AAI70709;
XX
DT   05-FEB-2002  (first entry)
XX
DE   Human dopamine beta-hydroxylase polynucleotide.
XX
KW   Dopamine beta-hydroxylase; dopamine beta-monooxygenase; human;
KW   neuropsychiatric disorder; bipolar disorder; schizophrenia;
KW   schizoaffective disorder; recurrent unipolar depression; hypomania;
KW   mood disorder; anxiety; attention deficit; Tourette's syndrome;
KW   addiction; substance abuse; diagnosis; gene therapy; DBH;
KW   single nucleotide polymorphism; SNP; ss.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             33..1844
FT                   /*tag=  a
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FT                   /EC_number= "1.14.17.1"
FT                   /product= "dopamine beta-hydroxylase"
FT   sig_peptide     33..107
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FT   mat_peptide     108..1841
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PN   WO200186000-A2.
XX
PD   15-NOV-2001.
XX
PF   10-MAY-2001; 2001WO-US15026.
XX
PR   10-MAY-2000; 2000US-202910P.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (GEHO ) GEN HOSPITAL CORP.
PA   (UYJO ) UNIV JOHNS HOPKINS.
XX
PI   Sklar P,  Lander ES,  McInnis MG,  Depaulo JR,  Willour V,  Potash J;
XX
DR   WPI; 2002-041600/05.
DR   P-PSDB; AAM50338.
XX
PT   Diagnosing or aiding a neuropsychiatric disorder such as depression,
PT   schizophrenia, in an individual, comprises determining the nucleotide
PT   present at specific nucleotide positions of dopamine beta-hydroxylase
PT   gene -
XX
PS   Claim 2; Fig 1B-C; 37pp; English.
XX
CC   The present sequence is that of a polynucleotide encoding human
CC   dopamine beta-hydroxylase (DBH or dopamine beta-monooxygenase, see
CC   AAM50338). The invention relates to the discovery of an
CC   association between the DBH gene and neuropsychiatric disorders,
CC   especially bipolar disorder. The presence of single nucleotide
CC   polymorphisms (SNPs) in the DBH gene allows for diagnosis,
CC   prediction of clinical course and treatment response, development
CC   of new treatments and development of cell culture-based and animal
CC   models for research and treatment. These SNPs are: DBHu1, a change
CC   from G (present sequence) to T at nucleotide position 942,
CC   resulting in a missense amino acid mutation from alanine to serine
CC   at amino acid 304: DBHu2, a change from C (present sequence) to T
CC   at nucleotide position 1635, resulting in a missense amino acid
CC   alteration from arginine to cysteine at amino acid 535; and
CC   DBHp444a, a change from A (present sequence) to G at nucleotide
CC   position 476, which is a silent mutation resulting in no change
CC   of amino acid 148 (Glu). The presence of A at nucleotide position
CC   476, G at position 942 or C at position 1635 is indicative of an
CC   increased likelihood of a neuropsychiatric disorder such as bipolar
CC   disorder, schizophrenia, schizoaffective disorder, recurrent
CC   unipolar depression, hypomania, mood disorders, anxiety disorders,
CC   ADHD, Tourette's syndrome, addictive disorders, substance use
CC   disorders, and disorders related to blood pressure. The SNPs
CC   provide novel drug targets for neuropsychiatric disease.
XX
SQ   Sequence 2725 BP; 533 A; 901 C; 774 G; 517 T; 0 other;

  Query Match             100.0%;  Score 2725;  DB 24;  Length 2725;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches 2725;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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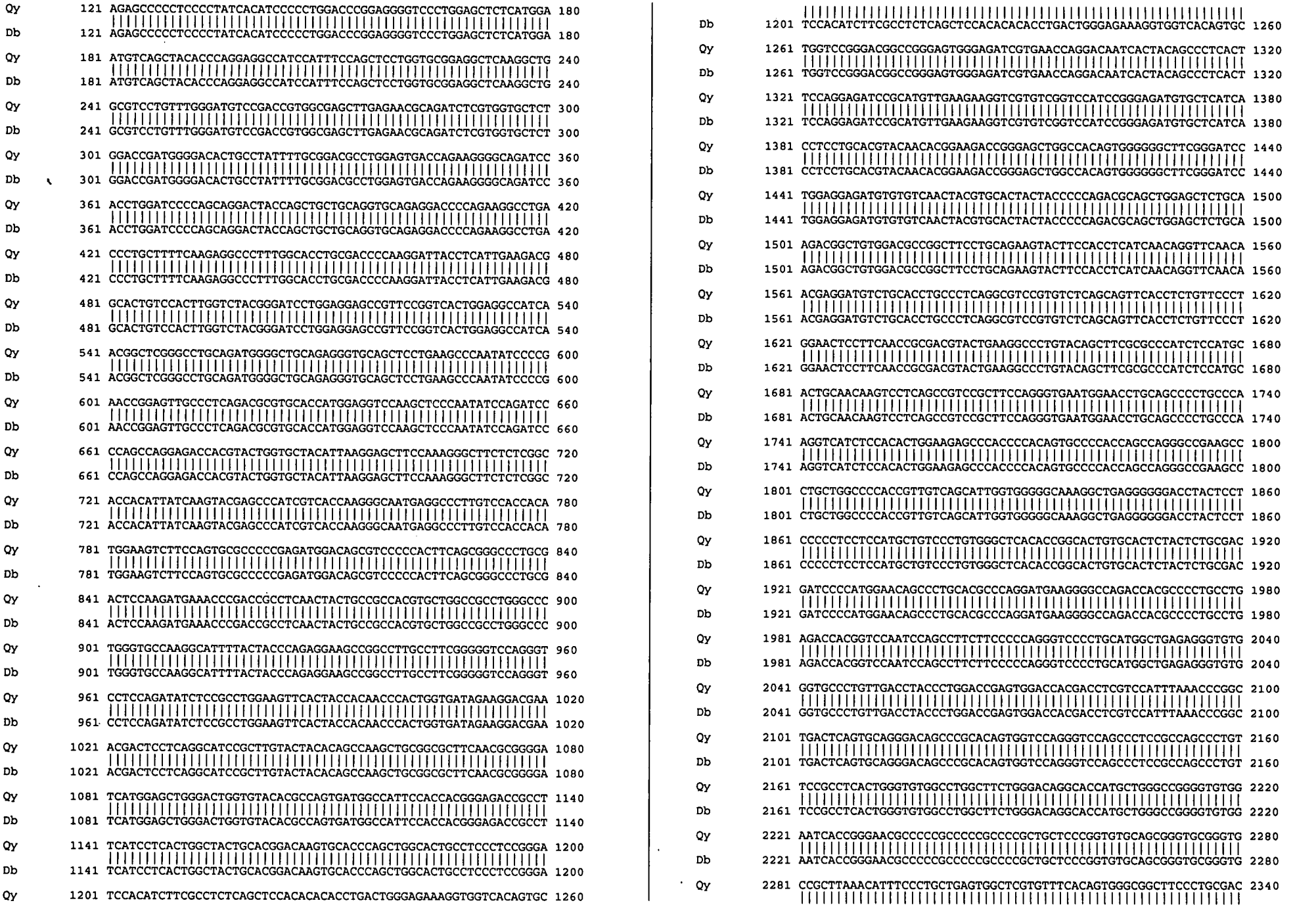
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Qy 2221 AATCACCGGGAACGCCCCCGCCCCCGCCCCGCTGCTCCCGGTGTGCAGCGGGTGCGGGTG 2280
Db 2221 AATCACCGGGAACGCCCCCGCCCCCGCCCCGCTGCTCCCGGTGTGCAGCGGGTGCGGGTG 2280
Qy 2281 CCGCTTAAACATTTCCCTGCTGAGTGGCTCGTGTTTCACAGTGGGCGGCTTCCCTGCGAC 2340

```
Db       2281 CCGCTTAAACATTTCCCTGCTGAGTGGCTCGTGTTTCACAGTGGGCGGCTTCCCTGCGAC 2340

Qy       2341 GGAGGCAGGACCAGGCATTTAGCTAGTTAGAGACTCGCCTGGGAAATTGCTCCATTCCTG 2400
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2341 GGAGGCAGGACCAGGCATTTAGCTAGTTAGAGACTCGCCTGGGAAATTGCTCCATTCCTG 2400

Qy       2401 AGTAAACAGATATTTTCGCCCACCTAAAGGGAAGCCCTGACAACAACTATCACCAAAAGA 2460
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2401 AGTAAACAGATATTTTCGCCCACCTAAAGGGAAGCCCTGACAACAACTATCACCAAAAGA 2460

Qy       2461 CGAGGCGGCAAAGATCCAGCGGGGCTTCTGGGCGCCGGTTCCACGTGGGGTGGAATTATT 2520
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2461 CGAGGCGGCAAAGATCCAGCGGGGCTTCTGGGCGCCGGTTCCACGTGGGGTGGAATTATT 2520

Qy       2521 AGCACCAGCTTGCTTCTCTGCCGGTGGGGCCAGCGCTGAACAGACCGGGGTGGAGTCAGG 2580
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2521 AGCACCAGCTTGCTTCTCTGCCGGTGGGGCCAGCGCTGAACAGACCGGGGTGGAGTCAGG 2580

Qy       2581 GCTGTGCTTTCCGCGTGGTTCTGCCACTTAGGGAGTGTGCCTTGGGCGGGCCATTTCACA 2640
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2581 GCTGTGCTTTCCGCGTGGTTCTGCCACTTAGGGAGTGTGCCTTGGGCGGGCCATTTCACA 2640

Qy       2641 TTCCTGACCCTCACTTTTCTCATCTGTAAAACCAGGCTGATGCCGTGCGGGCTAATGAGC 2700
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2641 TTCCTGACCCTCACTTTTCTCATCTGTAAAACCAGGCTGATGCCGTGCGGGCTAATGAGC 2700

Qy       2701 CAATAAAGCTCACACTTGGGCTGGC 2725
             |||||||||||||||||||||||||
Db       2701 CAATAAAGCTCACACTTGGGCTGGC 2725
```

RESULT 2
AAD46711
ID AAD46711 standard; cDNA; 1812 BP.
XX
AC AAD46711;
XX
DT 27-JAN-2003 (first entry)
XX
DE Human DBH cDNA.
XX
KW Human; dopamine beta-hydroxylase; DBH; chronic activation; miscarriage;
KW congestive heart failure; still birth; foetal death; neonatal death;
KW dementia; bipolar disorder; noradrenergic disease; attention deficit;
KW depression; schizophrenia; hyperactivity disorder; cardiant; ss.
XX
OS Homo sapiens.
XX
FH Key   Location/Qualifiers
FT CDS   1..1812
FT   /*tag= a
FT   /product= "Human DBH protein"
XX
PN WO200272006-A2.
XX
PD 19-SEP-2002.
XX
PF 07-MAR-2002; 2002WO-US06893.
XX
PR 07-MAR-2001; 2001US-274095P.
XX
PA (MCLE-) MCLEAN HOSPITAL CORP.
XX
PI Kim K, Kim C, Robertson D;
XX
DR WPI; 2002-723279/78.
DR P-PSDB; AAE29113.
XX
PT Identifying dopamine beta-hydroxylase inhibitor for treating congestive
PT heart failure, by contacting candidate compound with dopamine
PT beta-hydroxylase polypeptide region and detecting binding of compound
PT to the region -
XX
PS Disclosure; Page 62-63; 76pp; English.
XX
CC The present invention relates to a method of determining if a compound
CC is a potentially useful dopamine beta-hydroxylase (DBH) inhibitor. The
CC method involves contacting with a DBH polypeptide region and detecting
CC binding of a compound to the polypeptide or detecting DBH biological
CC activity where binding indicates that compound is a DBH inhibitor. The
CC method is useful for determining whether a compound is a potentially
CC useful DBH inhibitor where the DBH inhibitor is useful for the treatment
CC of a patient with congestive heart failure or chronic activation of
CC sympathetic nerve function or the inhibitor increases dopamine levels
CC that benefits renal function in a patient with congestive heart failure.
CC It is useful for determining whether a patient has an increased risk of
CC miscarriage, still birth, foetal or neonatal death, dementia, bipolar
CC disorder, noradrenergic disease, depression, schizophrenia or attention
CC deficit/hyperactivity disorder. The method is useful for the development
CC of drugs that specifically inhibit DBH biological activity. The present
CC sequence is human DBH cDNA.
XX
SQ Sequence 1812 BP; 373 A; 600 C; 505 G; 334 T; 0 other;

Query Match 66.3%; Score 1807.2; DB 24; Length 1812;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1809; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

```
Qy         33 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 92
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 60

Qy         93 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 152
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 120

Qy        153 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 212
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 180

Qy        213 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 272
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 240

Qy        273 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 332
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        241 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 300

Qy        333 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 392
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        301 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 360

Qy        393 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 452
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 420

Qy        453 GACCCCAAGGATTACCTCATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 512
              |||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        421 GACCCCAAGGATTACCTCATTGAGGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 480

Qy        513 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 572
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 540

Qy        573 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 632
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        541 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 600

Qy        633 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 692
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        601 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 660

Qy        693 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 752
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        661 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 720
```

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Qy       753 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 812
Db       721 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 780

Qy       813 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 872
Db       781 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 840

Qy       873 TGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAA 932
Db       841 TGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAA 900

Qy       933 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 992
Db       901 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 960

Qy       993 CACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACA 1052
Db       961 CACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACA 1020

Qy      1053 GCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTG 1112
Db      1021 GCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTG 1080

Qy      1113 ATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGC 1172
Db      1081 ATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGC 1140

Qy      1173 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1232
Db      1141 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1200

Qy      1233 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1292
Db      1201 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1260

Qy      1293 AACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTG 1352
Db      1261 AACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTG 1320

Qy      1353 TCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAG 1412
Db      1321 TCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAG 1380

Qy      1413 CTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTAC 1472
Db      1381 CTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTAC 1440

Qy      1473 TACCCCCAGACGCAGCTGGAGCTCTGCAAGACGGCTGTGGACGCCGGCTTCCTGCAGAAG 1532
Db      1441 TACCCCCAGACGCAGCTGGAGCTCTGCAAGAGCGCTGTGGACGCCGGCTTCCTGCAGAAG 1500

Qy      1533 TACTTCCACCTCATCAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCC 1592
Db      1501 TACTTCCACCTCATCAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCC 1560

Qy      1593 GTGTCTCAGCAGTTCACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCC 1652
Db      1561 GTGTCTCAGCAGTTCACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCC 1620

Qy      1653 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1712
Db      1621 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1680

Qy      1713 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1772
Db      1681 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1740

Qy      1773 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1832
Db      1741 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1800

Qy      1833 GGCAAAGGCTGA 1844
Db      1801 GGCAAAGGCTGA 1812
```

RESULT 3
AAD46714
ID AAD46714 standard; cDNA; 1812 BP.
XX
AC AAD46714;
XX
DT 27-JAN-2003 (first entry)
XX
DE Human DBH variant cDNA (G259A).
XX
KW Human; dopamine beta-hydroxylase; DBH; chronic activation; miscarriage;
KW congestive heart failure; still birth; foetal death; neonatal death;
KW dementia; bipolar disorder; noradrenergic disease; attention deficit;
KW depression; schizophrenia; hyperactivity disorder; cardiant; variant;
KW mutant; ss.
XX
OS Homo sapiens.
XX
FH Key   Location/Qualifiers
FT CDS   1..1812
FT   /*tag= a
FT   /product= "Human DBH variant protein (V87M)"
FT mutation   replace (259, G)
FT   /*tag= b
XX
PN WO200272006-A2.
XX
PD 19-SEP-2002.
XX
PF 07-MAR-2002; 2002WO-US06893.
XX
PR 07-MAR-2001; 2001US-274095P.
XX
PA (MCLE-) MCLEAN HOSPITAL CORP.
XX
PI Kim K, Kim C, Robertson D;
XX
DR WPI; 2002-723279/78.
DR P-PSDB; AAE29139.
XX
PT Identifying dopamine beta-hydroxylase inhibitor for treating congestive
PT heart failure, by contacting candidate compound with dopamine
PT beta-hydroxylase polypeptide region and detecting binding of compound
PT to the region -
XX
PS Disclosure; Page -; 76pp; English.
XX
CC The present invention relates to a method of determining if a compound
CC is a potentially useful dopamine beta-hydroxylase (DBH) inhibitor. The
CC method involves contacting with a DBH polypeptide region and detecting
CC binding of a compound to the polypeptide or detecting DBH biological
CC activity where binding indicates that compound is a DBH inhibitor. The
CC method is useful for determining whether a compound is a potentially
CC useful DBH inhibitor where the DBH inhibitor is useful for the treatment
CC of a patient with congestive heart failure or chronic activation of
CC sympathetic nerve function or the inhibitor increases dopamine levels
CC that benefits renal function in a patient with congestive heart failure.
CC It is useful for determining whether a patient has an increased risk of
CC miscarriage, still birth, foetal or neonatal death, dementia, bipolar
CC disorder, noradrenergic disease, depression, schizophrenia or attention
CC deficit/hyperactivity disorder. The method is useful for the development
CC of drugs that specifically inhibit DBH biological activity. The present
CC sequence is human DBH variant cDNA.
CC Note: This sequence is not shown in the specification but is derived
CC from wild-type DBH cDNA shown as SEQ ID NO: 36 in pages 62-63 of the
CC specification (AAD46711).
XX
SQ Sequence 1812 BP; 374 A; 600 C; 504 G; 334 T; 0 other;

Query Match 66.3%; Score 1805.6; DB 24; Length 1812;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 1808; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

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Qy      33 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 92
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 60

Qy      93 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 152
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 120

Qy     153 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 212
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 180

Qy     213 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 272
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 240

Qy     273 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 332
           |||||||||||||||| ||||||||||||||||||||||||||||||||||||||||||
Db     241 CTTGAGAACGCAGATCTCATGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 300

Qy     333 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 392
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 360

Qy     393 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 452
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 420

Qy     453 GACCCCAAGGATTACCTCATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 512
           |||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db     421 GACCCCAAGGATTACCTCATTGAGGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 480

Qy     513 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 572
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     481 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 540

Qy     573 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 632
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 600

Qy     633 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 692
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     601 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 660

Qy     693 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 752
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     661 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 720

Qy     753 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 812
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     721 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 780

Qy     813 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 872
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     781 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 840

Qy     873 TGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAA 932
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     841 TGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAA 900

Qy     933 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 992
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     901 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 960

Qy     993 CACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACA 1052
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     961 CACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACA 1020

Qy    1053 GCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTG 1112
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1021 GCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTG 1080

Qy    1113 ATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGC 1172
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1081 ATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGC 1140

Qy    1173 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1232
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1141 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1200

Qy    1233 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1292
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1201 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1260

Qy    1293 AACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTG 1352
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1261 AACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTG 1320

Qy    1353 TCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAG 1412
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1321 TCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAG 1380

Qy    1413 CTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTAC 1472
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1381 CTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTAC 1440

Qy    1473 TACCCCCAGACGCAGCTGGAGCTCTGCAAGACGGCTGTGGACGCCGGCTTCCTGCAGAAG 1532
           |||||||||||||||||||||||||||||  ||||||||||||||||||||||||||||
Db    1441 TACCCCCAGACGCAGCTGGAGCTCTGCAAGAGCGCTGTGGACGCCGGCTTCCTGCAGAAG 1500

Qy    1533 TACTTCCACCTCATCAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCC 1592
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1501 TACTTCCACCTCATCAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCC 1560

Qy    1593 GTGTCTCAGCAGTTCACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCC 1652
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1561 GTGTCTCAGCAGTTCACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCC 1620

Qy    1653 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1712
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1621 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1680

Qy    1713 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1772
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1681 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1740

Qy    1773 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1832
           ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1741 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1800

Qy    1833 GGCAAAGGCTGA 1844
           ||||||||||||
Db    1801 GGCAAAGGCTGA 1812
```

RESULT 4
AAD46715
ID AAD46715 standard; cDNA; 1812 BP.
XX
AC AAD46715;
XX
DT 27-JAN-2003 (first entry)
XX
DE Human DBH variant cDNA (C300A).
XX
KW Human; dopamine beta-hydroxylase; DBH; chronic activation; miscarriage;
KW congestive heart failure; still birth; foetal death; neonatal death;
KW dementia; bipolar disorder; noradrenergic disease; attention deficit;
KW depression; schizophrenia; hyperactivity disorder; cardiant; variant;
KW mutant; ss.
XX
OS Homo sapiens.

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XX
FH   Key             Location/Qualifiers
FT   CDS             1..1812
FT                   /*tag=  a
FT                   /product= "Human DBH variant protein (D100E)"
FT   mutation        replace (300, C)
FT                   /*tag=  b
XX
PN   WO200272006-A2.
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PD   19-SEP-2002.
XX
PF   07-MAR-2002; 2002WO-US06893.
XX
PR   07-MAR-2001; 2001US-274095P.
XX
PA   (MCLE-) MCLEAN HOSPITAL CORP.
XX
PI   Kim K,  Kim C,  Robertson D;
XX
DR   WPI; 2002-723279/78.
DR   P-PSDB; AAE29140.
XX
PT   Identifying dopamine beta-hydroxylase inhibitor for treating congestive
PT   heart failure, by contacting candidate compound with dopamine
PT   beta-hydroxylase polypeptide region and detecting binding of compound
PT   to the region  -
XX
PS   Disclosure; Page -; 76pp; English.
XX
CC   The present invention relates to a method of determining if a compound
CC   is a potentially useful dopamine beta-hydroxylase (DBH) inhibitor. The
CC   method involves contacting with a DBH polypeptide region and detecting
CC   binding of a compound to the polypeptide or detecting DBH biological
CC   activity where binding indicates that compound is a DBH inhibitor. The
CC   method is useful for determining whether a compound is a potentially
CC   useful DBH inhibitor where the DBH inhibitor is useful for the treatment
CC   of a patient with congestive heart failure or chronic activation of
CC   sympathetic nerve function or the inhibitor increases dopamine levels
CC   that benefits renal function in a patient with congestive heart failure.
CC   It is useful for determining whether a patient has an increased risk of
CC   miscarriage, still birth, foetal or neonatal death, dementia, bipolar
CC   disorder, noradrenergic disease, depression, schizophrenia or attention
CC   deficit/hyperactivity disorder. The method is useful for the development
CC   of drugs that specifically inhibit DBH biological activity. The present
CC   sequence is human DBH variant cDNA.
CC   Note: This sequence is not shown in the specification but is derived
CC   from wild-type DBH cDNA shown as SEQ ID NO: 36 in pages 62-63 of the
CC   specification (AAD46711).
XX
SQ   Sequence 1812 BP; 374 A; 599 C; 505 G; 334 T; 0 other;

  Query Match             66.3%;  Score 1805.6;  DB 24;  Length 1812;
  Best Local Similarity   99.8%;  Pred. No. 0;
  Matches 1808;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy         33 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 92
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Qy         93 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 152
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Db         61 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 120

Qy        153 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 212
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Db        121 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 180

Qy        213 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 272
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Qy        273 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 332
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Db        241 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAA 300

Qy        333 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 392
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Db        301 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 360

Qy        393 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 452
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Db        361 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 420

Qy        453 GACCCCAAGGATTACCTCATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 512
              ||||||||||||||||||| ||||||||||||||||||||||||||||||||||||||||
Db        421 GACCCCAAGGATTACCTCATTGAGGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 480

Qy        513 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 572
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 540

Qy        573 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 632
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Db        541 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 600

Qy        633 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 692
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Db        601 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 660

Qy        693 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 752
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Db        661 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 720

Qy        753 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 812
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Db        721 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 780

Qy        813 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 872
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Qy        933 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 992
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Qy        993 CACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACA 1052
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Qy       1053 GCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTG 1112
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Qy       1173 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1232
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Db       1141 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1200

Qy       1233 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1292
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Qy       1653 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1712
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Db       1621 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1680

Qy       1713 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1772
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Db       1681 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1740

Qy       1773 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1832
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1741 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1800

Qy       1833 GGCAAAGGCTGA 1844
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Db       1801 GGCAAAGGCTGA 1812
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RESULT 5
AAD46716
ID   AAD46716 standard; cDNA; 1812 BP.
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AC   AAD46716;
XX
DT   27-JAN-2003  (first entry)
XX
DE   Human DBH variant cDNA (G991A).
XX
KW   Human; dopamine beta-hydroxylase; DBH; chronic activation; miscarriage;
KW   congestive heart failure; still birth; foetal death; neonatal death;
KW   dementia; bipolar disorder; noradrenergic disease; attention deficit;
KW   depression; schizophrenia; hyperactivity disorder; cardiant; variant;
KW   mutant; ss.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   CDS             1..1812
FT                   /*tag=  a
FT                   /product= "Human DBH variant protein (D100E)"
FT   mutation        replace (991, G)
FT                   /*tag=  b
XX
PN   WO200272006-A2.
XX
PD   19-SEP-2002.
XX
PF   07-MAR-2002; 2002WO-US06893.
XX
PR   07-MAR-2001; 2001US-274095P.
XX
PA   (MCLE-) MCLEAN HOSPITAL CORP.
XX
PI   Kim K,  Kim C,  Robertson D;
XX
DR   WPI; 2002-723279/78.
DR   P-PSDB; AAE29141.
XX
PT   Identifying dopamine beta-hydroxylase inhibitor for treating congestive
PT   heart failure, by contacting candidate compound with dopamine
PT   beta-hydroxylase polypeptide region and detecting binding of compound
PT   to the region  -
XX
PS   Disclosure; Page -; 76pp; English.
XX
CC   The present invention relates to a method of determining if a compound
CC   is a potentially useful dopamine beta-hydroxylase (DBH) inhibitor. The
CC   method involves contacting with a DBH polypeptide region and detecting
CC   binding of a compound to the polypeptide or detecting DBH biological
CC   activity where binding indicates that compound is a DBH inhibitor. The
CC   method is useful for determining whether a compound is a potentially
CC   useful DBH inhibitor where the DBH inhibitor is useful for the treatment
CC   of a patient with congestive heart failure or chronic activation of
CC   sympathetic nerve function or the inhibitor increases dopamine levels
CC   that benefits renal function in a patient with congestive heart failure.
CC   It is useful for determining whether a patient has an increased risk of
CC   miscarriage, still birth, foetal or neonatal death, dementia, bipolar
CC   disorder, noradrenergic disease, depression, schizophrenia or attention
CC   deficit/hyperactivity disorder. The method is useful for the development
CC   of drugs that specifically inhibit DBH biological activity. The present
CC   sequence is human DBH variant cDNA.
CC   Note: This sequence is not shown in the specification but is derived
CC   from wild-type DBH cDNA shown as SEQ ID NO: 36 in pages 62-63 of the
CC   specification (AAD46711).
XX
SQ   Sequence 1812 BP; 374 A; 600 C; 504 G; 334 T; 0 other;
```

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  Query Match             66.3%;  Score 1805.6;  DB 24;  Length 1812;
  Best Local Similarity   99.8%;  Pred. No. 0;
  Matches 1808;  Conservative    0;  Mismatches    4;  Indels    0;  Gaps    0;

Qy         33 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 92
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Db          1 ATGCGGGAGGCAGCCTTCATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTG 60

Qy         93 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 152
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Db         61 GCCGCACTGCAGGGCTCGGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGAC 120

Qy        153 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 212
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Db        121 CCGGAGGGGTCCCTGGAGCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTC 180

Qy        213 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 272
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Db        181 CAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAG 240

Qy        273 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 332
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Db        241 CTTGAGAACGCAGATCTCGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGAC 300

Qy        333 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 392
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Db        301 GCCTGGAGTGACCAGAAGGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTG 360

Qy        393 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 452
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        361 CAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGC 420

Qy        453 GACCCCAAGGATTACCTCATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 512
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Db        421 GACCCCAAGGATTACCTCATTGAGGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAG 480

Qy        513 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 572
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        481 GAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGG 540

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Db        541 GTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATG 600
Qy        633 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 692
Db        601 GAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATT 660
Qy        693 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 752
Db        661 AAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACC 720
Qy        753 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 812
Db        721 AAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGAC 780
Qy        813 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 872
Db        781 AGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTAC 840
Qy        873 TGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAA 932
Db        841 TGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAA 900
Qy        933 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 992
Db        901 GCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTAC 960
Qy        993 CACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACA 1052
Db        961 CACAACCCACTGGTGATAGAAGGACGAAACAACTCCTCAGGCATCCGCTTGTACTACACA 1020
Qy       1053 GCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTG 1112
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Qy       1113 ATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGC 1172
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Qy       1173 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1232
Db       1141 ACCCAGCTGGCACTGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACAC 1200
Qy       1233 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1292
Db       1201 CTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTG 1260
Qy       1293 AACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTG 1352
Db       1261 AACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTG 1320
Qy       1353 TCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAG 1412
Db       1321 TCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAG 1380
Qy       1413 CTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTAC 1472
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Qy       1533 TACTTCCACCTCATCAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCC 1592
Db       1501 TACTTCCACCTCATCAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCC 1560
Qy       1593 GTGTCTCAGCAGTTCACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCC 1652
Db       1561 GTGTCTCAGCAGTTCACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCC 1620
Qy       1653 CTGTACAGCTTCGCGCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAG 1712
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Qy       1713 GGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCA 1772
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Qy       1773 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1832
Db       1741 CAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGG 1800
Qy       1833 GGCAAAGGCTGA 1844
Db       1801 GGCAAAGGCTGA 1812
```

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RESULT 6
AAT62548
ID   AAT62548 standard; DNA; 5540 BP.
XX
AC   AAT62548;
XX
DT   07-JUN-1997  (first entry)
XX
DE   IgSP-hPOMCdelACTH-IRES-rTHdel-IRES-bDBH-IRES-Zeocin-073 DNA.
XX
KW   Analgesic; pain; bioartificial organ; pro-opiomelanocotin; POMC;
KW   beta-endorphin; tyrosine hydroxylase; dopamine beta-hydroxylase;
KW   IgSP-hPOMC-delACTH-IRES-rTHdel-IRES-bDBH-Zeocin-073;
KW   internal ribosome entrty site; ss.
XX
OS   Chimeric Homo sapiens;
OS   Chimeric picornavirus;
OS   Chimeric Rattus sp.;
OS   Chimeric Bos taurus.
XX
FH   Key             Location/Qualifiers
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FT   exon            1..164
FT                   /*tag= b
FT                   /codon_start= 119
FT   intron          165..243
FT                   /*tag= c
FT   exon            244..557
FT                   /*tag= d
FT   intron          558..1155
FT                   /*tag= e
FT   exon            1156..2166
FT                   /*tag= f
FT   intron          2167..2766
FT                   /*tag= g
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FT                   /*tag= h
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FT                   /*tag= j
FT   3'UTR           5535..5540
FT                   /*tag= k
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PN   WO9640959-A1.
XX
PD   19-DEC-1996.
XX
PF   07-JUN-1996;   96WO-US09629.
XX
PR   07-JUN-1995;   95US-0481917.
XX
PA   (CYTO-) CYTOTHERAPEUTICS INC.
XX
PI   Saydoff J,  Wong S;
XX
DR   WPI; 1997-087062/08.
XX
```

PT Stably transformed cells expressing endorphin, enkephalin and
PT catecholamine - and artificial organs contg. them, useful for
PT control of pain, esp. implanted in the CNS
XX
PS Example; Page 84-88; 114pp; English.
XX
CC A DNA sequence (AAT62548) comprises a fusion between IgSP, a human
CC pro-opiomelanocortin (POMC) gene in which the ACTH portion has
CC been deleted (see also AAT62524), a viral IRES, a truncated rat
CC tyrosine hydroxylase gene (see also AAT62529), another IRES, a bovine
CC dopamine beta-hydroxylase (bDBH) (see also AAT62535) gene and a
CC zeocin gene. Host cell lines (e.g. RIN rat pancreatic endocrine)
CC transformed with a vector carrying the construct can convert the
CC POMC-delACTH to beta-endorphin, and utilise endogenous catecholamine
CC synthetic enzymes with the recombinant TH and DBH sequences to
CC produce norepinephrine. Sequential transformation of such cells
CC with diff. vectors, or with a polycistronic vector allows prodn. of
CC cell lines that produce more than one analgesic cpd. Such cell
CC lines can be encapsulated to form bioartificial organs that can be
CC implanted e.g. in the CNS for the control of pain.
XX
SQ Sequence 5540 BP; 1132 A; 1697 C; 1587 G; 1124 T; 0 other;

Query Match 51.3%; Score 1398; DB 18; Length 5540;
Best Local Similarity 85.5%; Pred. No. 4.2e-294;
Matches 1557; Conservative 0; Mismatches 265; Indels 0; Gaps 0;

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Qy        50 CATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTC 109
             ||||||| |||| || |||||| |||||||||||||||| ||||| |||||||||||||
Db      2766 CATGTACGGCACCGCGGTGGCCGTCTTCCTGGTCATCCTCGTGGCTGCACTGCAGGGCTC 2825

Qy       110 GGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGA 169
             |||||||   |||||||| ||||||  |||||||||||||||| |||||| |||||||
Db      2826 GGCTCCCGCCGAGAGCCCCTTCCCCTTCCACATCCCCCTGGACCCCGAGGGGACCCTGGA 2885

Qy       170 GCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAG 229
             ||| || |||||  |||||||  | |||||| ||||| | ||||||||||||||||||
Db      2886 GCTGTCCTGGAACATCAGCTATGCGCAGGAGACCATCTACTTCCAGCTCCTGGTGCGGGA 2945

Qy       230 GCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCT 289
             |||||||||||| |||||||||||||||||| ||||| || ||||| ||||| || ||  |
Db      2946 GCTCAAGGCTGGTGTCCTGTTTGGGATGTCGGACCGAGGGGAGCTGGAGAATGCTGACTT 3005

Qy       290 CGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAA 349
             ||||||||||||| ||  |||||  ||||| |||| ||| ||||||||||||||||||
Db      3006 GGTGGTGCTCTGGACTGACAGGGACGGCGCCTACTTTGGGGATGCCTGGAGTGACCAGAA 3065

Qy       350 GGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCC 409
             |||||||  |||||||||  |||||||| |||| ||  ||||||||  ||||||||||||
Db      3066 GGGGCAGGTCCACCTGGACTCCCAGCAGGATTACCAGCTTCTGCGGGCACAGAGGACTCC 3125

Qy       410 AGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCT 469
             ||||||||||  |||||| |||||||||||  |||||||||| |||||||| || |||||
Db      3126 AGAAGGCCTGTACCTGCTCTTCAAGAGGCCTTTTGGCACCTGTGACCCCAACGACTACCT 3185

Qy       470 CATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACT 529
             ||| || |||||||| |||||| |||| || ||  ||||||||||||| |||||||  ||
Db      3186 CATCGAGGACGGCACCGTCCACCTGGTGTATGGATTCCTGGAGGAGCCGCTCCGGTCGCT 3245

Qy       530 GGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCC 589
             ||||  ||||||||   || ||| |||| | ||||||||||||||||||| ||||||||
Db      3246 GGAGTCCATCAACACATCCGGCTTGCACACGGGGCTGCAGAGGGTGCAGCTGCTGAAGCC 3305

Qy       590 CAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAA 649
             ||  |||||| | ||||   |||||| | ||| || |||||||||| |||  || ||| |
Db      3306 CAGCATCCCCAAGCCGGCCCTGCCCGCGGACACGCGCACCATGGAGATCCGCGCCCCCGA 3365

Qy       650 TATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGG 709
             |||  |||||| ||||| |||||||||||||||||||| | |  ||||| ||  | ||
Db      3366 CGTCCTCATCCCCGGCCAGCAGACCACGTACTGGTGCTACGTGACCGAGCTCCCGGACGG 3425

Qy       710 CTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCT 769
             |||| | |||||||||||  ||| |||||||||||||||||| ||||||| ||||| ||
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Db      3426 CTTCCCCCGGCACCACATCGTCATGTACGAGCCCATCGTCACCGAGGGCAACGAGGCGCT 3485

Qy       770 TGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGACAGCGTCCCCCACTTCAG 829
             || |||||||||||| |||||||||||||||| ||||| | || | | ||||||||||||
Db      3486 GGTGCACCACATGGAGGTCTTCCAGTGCGCCGCCGAGTTCGAGACCATCCCCCACTTCAG 3545

Qy       830 CGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGC 889
             |||||||||||||||||||||||||| ||  | || ||||||| |||||| ||||||||||
Db      3546 CGGGCCCTGCGACTCCAAGATGAAGCCGCAGCGGCTCAACTTCTGCCGTCACGTGCTGGC 3605

Qy       890 CGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGG 949
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Db      3606 CGCCTGGGCCCTGGGCGCCAAGGCCTTTTACTACCCAGAGGAAGCAGGCCTGGCCTTCGG 3665

Qy       950 GGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 1009
             ||| || || |||||||||| ||||||||||||||||||||||||||||||||||||||||
Db      3666 GGGGCCCGGCTCCTCCAGATTTCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 3725

Qy      1010 AGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTT 1069
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Db      3726 AACAGGCCGGCGCGACTCCTCGGGCATCCGCCTGTACTACACGGCTGCGCTGCGGCGCTT 3785

Qy      1070 CAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACG 1129
             | ||||||| |||||||||| |||| ||||||||| |||||||||| || || |
Db      3786 CGACGCGGGCATCATGGAGCTGGGCCTGGCGTACACGCCCGTGATGGCCATCCCCCCGCA 3845

Qy      1130 GGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTGCC 1189
             |||||| |||||| ||||||| ||||||||||||||||||||||||||||||| |||||
Db      3846 GGAGACGGCCTTCGTCCTCACCGGCTACTGCACGGACAAGTGCACCCAGCTGGCCCTGCC 3905

Qy      1190 TCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGT 1249
             ||||| ||||| |||||||||||||||||||||||| |||||||| ||  | |||||
Db      3906 CGCCTCAGGGATTCACATCTTCGCCTCTCAGCTCCACACGCACCTGACCGGCCGGAAGGT 3965

Qy      1250 GGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTA 1309
             |||||||||||||| | |||||||||||||  |||||||||||  |||||| |||||
Db      3966 GGTCACAGTGCTGGCCAGGGACGGCCGGGAGACAGAGATCGTGAACAGGGACAACCACTA 4025

Qy      1310 CAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGA 1369
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Db      4026 CAGCCCACACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCTGTCCAGCCGGGAGA 4085

Qy      1370 TGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGG 1429
             |||||||||||||| ||||| |||||||||||||| ||  ||||||||| |||||||||
Db      4086 CGTGCTCATCACCTCTTGCACATACAACACGGAAGACAGGAGGCTGGCCACCGTGGGGGG 4145

Qy      1430 CTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCCCCAGACGCAGCT 1489
             |||||||||||||||||||||||||| |||||||| ||||||||||||||||||||||||
Db      4146 CTTCGGGATCCTGGAGGAGATGTGCGTCAACTATGTGCACTACTACCCCCAGACGCAGCT 4205

Qy      1490 GGAGCTCTGCAAGACGGCTGTGGACGCCGGCTTCCTGCAGAAGTACTTCCACCTCATCAA 1549
             |||||||||||||  || |||||| | |||||||||| |||||||||| |||| | ||
Db      4206 GGAGCTCTGCAAGAGCGCCGTGGACCCTGGCTTCCTGCACAAGTACTTCCGCCTCGTGAA 4265

Qy      1550 CAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTTCAC 1609
             |||||||||| |||||| |||||||||||||| ||  || |||||||  |
Db      4266 CAGGTTCAACAGCGAGGAAGTCTGCACCTGCCCCCAGGCGTCTGTCCCTGAGCAGTTTGC 4325

Qy      1610 CTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGCGCC 1669
             ||| || |||||||||||||||||||||||| || || |||||||||| |||||||  ||
Db      4326 CTCCGTGCCCTGGAACTCCTTCAACCGCGAGGTGCTCAAGGCCCTGTACGGCTTCGCACC 4385

Qy      1670 CATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGGGTGAATGGAACCTGCA 1729
             |||||||||||||||||| |||||| |||||||||||||||| || ||||| | |||
Db      4386 CATCTCCATGCACTGCAACAGGTCCTCGGCCGTCCGCTTCCAGGGCGAGTGGAATCGGCA 4445

Qy      1730 GCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCACAGTGCCCCACCAGCCA 1789
             |||||||| || || | |||| ||||||||||||||| || |||||  |||||||
Db      4446 GCCCCTGCCTGAGATCGTGTCCAGGTTGGAAGAGCCCACCCCTCACTGCCCAGCCAGCCA 4505

Qy      1790 GGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGGGGCAAAGGCTGAGGGGG 1849
             || | ||||| || |||||||||||  | | |||  |||||||||||||||||  | |
Db      4506 GGCTCAGAGCCCCGCCGGCCCCACCGTGCTGAACATCAGTGGGGGCAAAGGCTGAACGTG 4565
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Qy       1850 GACCTACTCCTCCCCCTCCTCC 1871
              | |   | || | | | |  ||
Db       4566 GGCGGCCGCCCCTCTCCCTCCC 4587
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RESULT 7
AAT62535
ID AAT62535 standard; DNA; 3425 BP.
XX
AC AAT62535;
XX
DT 06-JUN-1997 (first entry)
XX
DE rTHdel-IRES-bDBH DNA sequence.
XX
KW Analgesic; pain; bioartificial organ; tyrosine hydroxylase;
KW dopamine beta-hydroxylase; internal ribosome entry site; IRES;
KW norepinephrine; catecholamine; rTHdel-IRES-bDBH; ss.
XX
OS Chimeric Rattus sp.;
OS Chimeric picornavirus;
OS Chimeric Bos taurus.
XX

FH	Key	Location/Qualifiers
FT	5'UTR	1..5
FT		/*tag= a
FT	exon	1..1017
FT		/*tag= b
FT	intron	1018..1617
FT		/*tag= c
FT	exon	1618..3425
FT		/*tag= d
FT	3'UTR	3412..3425
FT		/*tag= e
FT	misc_feature	1025..1617
FT		/*tag= f
FT		/product= IRES

XX
PN WO9640959-A1.
XX
PD 19-DEC-1996.
XX
PF 07-JUN-1996; 96WO-US09629.
XX
PR 07-JUN-1995; 95US-0481917.
XX
PA (CYTO-) CYTOTHERAPEUTICS INC.
XX
PI Saydoff J, Wong S;
XX
DR WPI; 1997-087062/08.
XX
PT Stably transformed cells expressing endorphin, enkephalin and
PT catecholamine - and artificial organs contg. them, useful for
PT control of pain, esp. implanted in the CNS
XX
PS Example; Page 69-71; 114pp; English.
XX
CC 2 DNA constructs (AAT62535 and AAT62536) respectively comprise a
CC truncated rat tyrosine hydroxylase sequence, rTHdel (see also
CC AAT62529) or rTHdelKS (see also AAT62530), joined via an IRES sequence
CC to the bovine dopamine beta-hydroxylase gene. Expression of the
CC constructs in transformed RIN or AtT-20 cells complements the
CC host cells' catecholamine synthesising enzymes, allowing prodn.
CC of norepinephrine. Sequential transformation of host cells with
CC diff. vectors, or with a polycistronic vector (see also AAT62543,
CC AAT62548), allows prodn. of cell lines that produce more than one
CC analgesic cpd. Such cell lines can be encapsulated to form
CC bioartificial organs that can be implanted e.g. in the CNS for the
CC control of pain.
XX
SQ Sequence 3425 BP; 687 A; 1093 C; 962 G; 683 T; 0 other;

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  Query Match             51.1%;  Score 1393.4;  DB 18;  Length 3425;
  Best Local Similarity   85.8%;  Pred. No. 3.7e-293;
  Matches 1547;  Conservative    0;  Mismatches  256;  Indels    0;  Gaps    0;

Qy         50 CATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTC 109
              ||||||| |||| || |||||| |||||||||||||||| ||||| ||||||||||||||
Db       1617 CATGTACGGCACCGCGGTGGCCGTCTTCCTGGTCATCCTCGTGGCTGCACTGCAGGGCTC 1676

Qy        110 GGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGA 169
              |||||||  |||||||||| ||||||  |||||||||||||||||| ||||||  |||||||
Db       1677 GGCTCCCGCCGAGAGCCCCTTCCCCTTCCACATCCCCCTGGACCCCGAGGGGACCCTGGA 1736

Qy        170 GCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAG 229
              ||| || |||||  |||||||  | |||||| ||||| | ||||||||||||||||||||
Db       1737 GCTGTCCTGGAACATCAGCTATGCGCAGGAGACCATCTACTTCCAGCTCCTGGTGCGGGA 1796

Qy        230 GCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCT 289
              |||||||||||| |||||||||||||||||| ||||| || ||||| ||||| || ||  |
Db       1797 GCTCAAGGCTGGTGTCCTGTTTGGGATGTCGGACCGAGGGGAGCTGGAGAATGCTGACTT 1856

Qy        290 CGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAA 349
              ||||||||||||||| || |||||  ||||| |||| ||| ||||||||||||||||||
Db       1857 GGTGGTGCTCTGGACTGACAGGGACGGCGCCTACTTTGGGGATGCCTGGAGTGACCAGAA 1916

Qy        350 GGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCC 409
              ||||||| |||||||||| |||||||||| |||||||| |||| ||  |||||||| ||
Db       1917 GGGGCAGGTCCACCTGGACTCCCAGCAGGATTACCAGCTTCTGCGGGCACAGAGGACTCC 1976

Qy        410 AGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCT 469
              |||||||||  |||||| |||||||||| |||||||||| |||||||| || ||||||
Db       1977 AGAAGGCCTGTACCTGCTCTTCAAGAGGCCTTTTGGCACCTGTGACCCCAACGACTACCT 2036

Qy        470 CATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACT 529
              ||| || |||||||| |||||| |||| || ||  ||||||||||||||||| |||||||  ||
Db       2037 CATCGAGGACGGCACCGTCCACCTGGTGTATGGATTCCTGGAGGAGCCGCTCCGGTCGCT 2096

Qy        530 GGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCC 589
              |||| ||||||||   || ||| |||| | ||||||||||||||||||||| ||||||||
Db       2097 GGAGTCCATCAACACATCCGGCTTGCACACGGGGCTGCAGAGGGTGCAGCTGCTGAAGCC 2156

Qy        590 CAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAA 649
              ||  |||||| | ||||   ||||| | ||| || |||||||||| |||  || ||| |
Db       2157 CAGCATCCCCAAGCCGGCCCTGCCCGCGGACACGCGCACCATGGAGATCCGCGCCCCCGA 2216

Qy        650 TATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGG 709
              |||  |||||| ||||| |||||||||||||||||||| | |  ||||| ||  | ||
Db       2217 CGTCCTCATCCCCGGCCAGCAGACCACGTACTGGTGCTACGTGACCGAGCTCCCGGACGG 2276

Qy        710 CTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCT 769
              |||| | |||||||||||  ||| |||||||||||||||||| ||||||| ||||| ||
Db       2277 CTTCCCCCGGCACCACATCGTCATGTACGAGCCCATCGTCACCGAGGGCAACGAGGCGCT 2336

Qy        770 TGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGACAGCGTCCCCCACTTCAG 829
              || |||||||||||  |||||||||||||||| ||||| | || | | ||||||||||||
Db       2337 GGTGCACCACATGGAGGTCTTCCAGTGCGCCGCCGAGTTCGAGACCATCCCCCACTTCAG 2396

Qy        830 CGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGC 889
              |||||||||||||||||||||||||||| ||  | || ||||||| |||||| ||||||||||
Db       2397 CGGGCCCTGCGACTCCAAGATGAAGCCGCAGCGGCTCAACTTCTGCCGTCACGTGCTGGC 2456

Qy        890 CGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGG 949
              |||||||||||||| |||||||| |||||||||||||||||||| ||||| ||||||||
Db       2457 CGCCTGGGCCCTGGGCGCCAAGGCCTTTTACTACCCAGAGGAAGCAGGCCTGGCCTTCGG 2516

Qy        950 GGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 1009
              ||| || || |||||||||| ||||||||||||||||||||||||||||||||||||||||
Db       2517 GGGGCCCGGCTCCTCCAGATTTCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 2576

Qy       1010 AGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTT 1069
              |  ||| ||  |||||||| |||||||| | |||||||| ||   ||||||||||||
Db       2577 AACAGGCCGGCGCGACTCCTCGGGCATCCGCCTCTACTACACGGCTGCGCTGCGGCGCTT 2636
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Qy       1070 CAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACG 1129
Db       2637 CGACGCGGGCATCATGGAGCTGGGCCTGGCGTACACGCCCGTGATGGCCATCCCCCCGCA 2696

Qy       1130 GGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTGCC 1189
Db       2697 GGAGACGGCCTTCGTCCTCACCGGCTACTGCACGGACAAGTGCACCCAGCTGGCCCTGCC 2756

Qy       1190 TCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACCTGACTGGGAGAAAGGT 1249
Db       2757 CGCCTCAGGGATTCACATCTTCGCCTCTCAGCTCCACACGCACCTGACCGGCCGGAAGGT 2816

Qy       1250 GGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTA 1309
Db       2817 GGTCACAGTGCTGGCCAGGGACGGCCGGGAGACAGAGATCGTGAACAGGGACAACCACTA 2876

Qy       1310 CAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGA 1369
Db       2877 CAGCCCACACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCTGTCCAGCCGGGAGA 2936

Qy       1370 TGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGG 1429
Db       2937 CGTGCTCATCACCTCTTGCACATACAACACGGAAGACAGGAGGCTGGCCACCGTGGGGGG 2996

Qy       1430 CTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCCCCAGACGCAGCT 1489
Db       2997 CTTCGGGATCCTGGAGGAGATGTGCGTCAACTATGTGCACTACTACCCCCAGACGCAGCT 3056

Qy       1490 GGAGCTCTGCAAGACGGCTGTGGACGCCGGCTTCCTGCAGAAGTACTTCCACCTCATCAA 1549
Db       3057 GGAGCTCTGCAAGAGCGCCGTGGACCCTGGCTTCCTGCACAAGTACTTCCGCCTCGTGAA 3116

Qy       1550 CAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTTCAC 1609
Db       3117 CAGGTTCAACAGCGAGGAAGTCTGCACCTGCCCCCAGGCGTCTGTCCCTGAGCAGTTTGC 3176

Qy       1610 CTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGCGCC 1669
Db       3177 CTCCGTGCCCTGGAACTCCTTCAACCGCGAGGTGCTCAAGGCCCTGTACGGCTTCGCACC 3236

Qy       1670 CATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGGGTGAATGGAACCTGCA 1729
Db       3237 CATCTCCATGCACTGCAACAGGTCCTCGGCCGTCCGCTTCCAGGGCGAGTGGAATCGGCA 3296

Qy       1730 GCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCACAGTGCCCCACCAGCCA 1789
Db       3297 GCCCCTGCCTGAGATCGTGTCCAGGTTGGAAGAGCCCACCCCTCACTGCCCAGCCAGCCA 3356

Qy       1790 GGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGGGGCAAAGGCTGAGGGGG 1849
Db       3357 GGCTCAGAGCCCCGCCGGCCCCACCGTGCTGAACATCAGTGGGGGCAAAGGCTGAACGTG 3416

Qy       1850 GAC 1852
Db       3417 GGC 3419
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RESULT 8
AAT62536
ID   AAT62536 standard; DNA; 3432 BP.
XX
AC   AAT62536;
XX
DT   06-JUN-1997  (first entry)
XX
DE   rTHdelKS-IRES-bDBH DNA sequence.
XX
KW   Analgesic; pain; bioartificial organ; tyrosine hydroxylase;
KW   dopamine beta-hydroxylase; internal ribosome entry site; IRES;
KW   norepinephrine; catecholamine; rTHdelKS-IRES-bDBH; ss.
XX
OS   Chimeric Rattus sp.;
OS   Chimeric picornavirus;
OS   Chimeric Bos taurus.
XX
FH   Key             Location/Qualifiers
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FT   exon            1..1024
FT                   /*tag=  b
FT   intron          1025..1624
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FT                   /*tag=  d
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PN   WO9640959-A1.
XX
PD   19-DEC-1996.
XX
PF   07-JUN-1996;   96WO-US09629.
XX
PR   07-JUN-1995;   95US-0481917.
XX
PA   (CYTO-) CYTOTHERAPEUTICS INC.
XX
PI   Saydoff J,  Wong S;
XX
DR   WPI; 1997-087062/08.
XX
PT   Stably transformed cells expressing endorphin, enkephalin and
PT   catecholamine - and artificial organs contg. them, useful for
PT   control of pain, esp. implanted in the CNS
XX
PS   Example; Page 72-75; 114pp; English.
XX
CC   2 DNA constructs (AAT62535 and AAT62536) respectively comprise a
CC   truncated rat tyrosine hydroxylase sequence, rTHdel (see also
CC   AAT62529) or rTHdelKS (see also AAT62530), joined via an IRES sequence
CC   to the bovine dopamine beta-hydroxylase gene.  Expression of the
CC   constructs in transformed RIN or AtT-20 cells complements the
CC   host cells' catecholamine synthesising enzymes, allowing prodn.
CC   of norepinephrine.  Sequential transformation of host cells with
CC   diff. vectors, or with a polycistronic vector (see also AAT62543,
CC   AAT62548), allows prodn. of cell lines that produce more than one
CC   analgesic cpd.  Such cell lines can be encapsulated to form
CC   bioartificial organs that can be implanted e.g. in the CNS for the
CC   control of pain.
XX
SQ   Sequence 3432 BP; 688 A; 1098 C; 963 G; 683 T; 0 other;

  Query Match           51.1%;  Score 1393.4;  DB 18;  Length 3432;
  Best Local Similarity  85.8%;  Pred. No. 3.8e-293;
  Matches 1547;  Conservative    0;  Mismatches  256;  Indels    0;  Gaps    0;

Qy         50 CATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTC 109
Db       1624 CATGTACGGCACCGCGGTGGCCGTCTTCCTGGTCATCCTCGTGGCTGCACTGCAGGGCTC 1683

Qy        110 GGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGA 169
Db       1684 GGCTCCCGCCGAGAGCCCCTTCCCCTTCCACATCCCCCTGGACCCCGAGGGGACCCTGGA 1743

Qy        170 GCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAG 229
Db       1744 GCTGTCCTGGAACATCAGCTATGCGCAGGAGACCATCTACTTCCAGCTCCTGGTGCGGGA 1803

Qy        230 GCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCT 289
Db       1804 GCTCAAGGCTGGTGTCCTGTTTGGGATGTCGGACCGAGGGGAGCTGGAGAATGCTGACTT 1863

Qy        290 CGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAA 349
```

```
Db       1864 GGTGGTGCTCTGGACTGACAGGGACGGCGCCTACTTTGGGGATGCCTGGAGTGACCAGAA 1923

Qy        350 GGGGCAGATCCCACCTGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCC 409

Db       1924 GGGGCAGGTCCACCTGGACTCCCAGCAGGATTACCAGCTTCTGCGGGCACAGAGGACTCC 1983

Qy        410 AGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCT 469

Db       1984 AGAAGGCCTGTACCTGCTCTTCAAGAGGCCTTTTGGCACCTGTGACCCCAACGACTACCT 2043

Qy        470 CATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACT 529

Db       2044 CATCGAGGACGGCACCGTCCACCTGGTGTATGGATTCCTGGAGGAGCCGCTCCGGTCGCT 2103

Qy        530 GGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCC 589

Db       2104 GGAGTCCATCAACACATCCGGCTTGCACACGGGGCTGCAGAGGGTGCAGCTGCTGAAGCC 2163

Qy        590 CAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAA 649

Db       2164 CAGCATCCCCAAGCCGGCCCTGCCCGCGGACACGCGCACCATGGAGATCCGCGCCCCCGA 2223

Qy        650 TATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGG 709

Db       2224 CGTCCTCATCCCCGGCCAGCAGACCACGTACTGGTGCTACGTGACCGAGCTCCCGGACGG 2283

Qy        710 CTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCT 769

Db       2284 CTTCCCCCGGCACCACATCGTCATGTACGAGCCCATCGTCACCGAGGGCAACGAGGCGCT 2343

Qy        770 TGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGACAGCGTCCCCCACTTCAG 829

Db       2344 GGTGCACCACATGGAGGTCTTCCAGTGCGCCGCCGAGTTCGAGACCATCCCCCACTTCAG 2403

Qy        830 CGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGC 889

Db       2404 CGGGCCCTGCGACTCCAAGATGAAGCCGCAGCGGCTCAACTTCTGCCGTCACGTGCTGGC 2463

Qy        890 CGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGG 949

Db       2464 CGCCTGGGCCCTGGGCGCCAAGGCCTTTTACTACCCAGAGGAAGCAGGCCTGGCCTTCGG 2523

Qy        950 GGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 1009

Db       2524 GGGGCCCGGCTCCTCCAGATTTCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 2583

Qy       1010 AGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTT 1069

Db       2584 AACAGGCCGGCGCGACTCCTCGGGCATCCGCCTCTACTACACGGCTGCGCTGCGGCGCTT 2643

Qy       1070 CAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACG 1129

Db       2644 CGACGCGGGCATCATGGAGCTGGGCCTGGCGTACACGCCCGTGATGGCCATCCCCCCGCA 2703

Qy       1130 GGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTGCC 1189

Db       2704 GGAGACGGCCTTCGTCCTCACCGGCTACTGCACGGACAAGTGCACCCAGCTGGCCCTGCC 2763

Qy       1190 TCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGT 1249

Db       2764 CGCCTCAGGGATTCACATCTTCGCCTCTCAGCTCCACACGCACCTGACCGGCCGGAAGGT 2823

Qy       1250 GGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTA 1309

Db       2824 GGTCACAGTGCTGGCCAGGGACGGCCGGGAGACAGAGATCGTGAACAGGGACAACCACTA 2883

Qy       1310 CAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGA 1369

Db       2884 CAGCCCACACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCTGTCCAGCCGGGAGA 2943

Qy       1370 TGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGG 1429

Db       2944 CGTGCTCATCACCTCTTGCACATACAACACGGAAGACAGGAGGCTGGCCACCGTGGGGGG 3003

Qy       1430 CTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCCCCAGACGCAGCT 1489

Db       3004 CTTCGGGATCCTGGAGGAGATGTGCGTCAACTATGTGCACTACTACCCCCAGACGCAGCT 3063

Qy       1490 GGAGCTCTGCAAGACGGCTGTGGACGCCGGCTTCCTGCAGAAGTACTTCCACCTCATCAA 1549

Db       3064 GGAGCTCTGCAAGAGCGCCGTGGACCCTGGCTTCCTGCACAAGTACTTCCGCCTCGTGAA 3123

Qy       1550 CAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTTCAC 1609

Db       3124 CAGGTTCAACAGCGAGGAAGTCTGCACCTGCCCCCAGGCGTCTGTCCCTGAGCAGTTTGC 3183

Qy       1610 CTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGCGCC 1669

Db       3184 CTCCGTGCCCTGGAACTCCTTCAACCGCGAGGTGCTCAAGGCCCTGTACGGCTTCGCACC 3243

Qy       1670 CATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGGGTGAATGGAACCTGCA 1729

Db       3244 CATCTCCATGCACTGCAACAGGTCCTCGGCCGTCCGCTTCCAGGGCGAGTGGAATCGGCA 3303

Qy       1730 GCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCACAGTGCCCCACCAGCCA 1789

Db       3304 GCCCCTGCCTGAGATCGTGTCCAGGTTGGAAGAGCCCACCCCTCACTGCCCAGCCAGCCA 3363

Qy       1790 GGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGGGGCAAAGGCTGAGGGGG 1849

Db       3364 GGCTCAGAGCCCCGCCGGCCCCACCGTGCTGAACATCAGTGGGGGCAAAGGCTGAACGTG 3423

Qy       1850 GAC 1852

Db       3424 GGC 3426
```

```
RESULT 9
AAT62543
ID   AAT62543 standard; DNA; 4499 BP.
XX
AC   AAT62543;
XX
DT   07-JUN-1997  (first entry)
XX
DE   IgSP-hPOMCdelACTH-IRES-rTHdel-IRES-bDBH-068 DNA sequence.
XX
KW   Analgesic; pain; bioartificial organ; pro-opiomelanocotin; POMC;
KW   beta-endorphin; tyrosine hydroxylase; dopamine beta-hydroxylase;
KW   IgSP-hPOMC-delACTH-IRES-rTHdel-IRES-bDBH-068;
KW   internal ribosome entrty site; ss.
XX
OS   Chimeric Homo sapiens;
OS   Chimeric Rattus sp.;
OS   Chimeric Bos taurus;
OS   Chimeric picornavirus.
XX
FH   Key             Location/Qualifiers
FT   5'UTR           1..43
FT                   /*tag=  a
FT   exon            1..89
FT                   /*tag=  b
FT                   /codon_start= 44
FT   intron          90..168
FT                   /*tag=  c
FT   exon            169..482
FT                   /*tag=  d
FT   intron          483..1080
FT                   /*tag=  e
FT   exon            1081..2091
FT                   /*tag=  f
FT   intron          2092..2691
FT                   /*tag=  g
FT   exon            2692..4499
FT                   /*tag=  h
```

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FT   3'UTR            4486..4499
FT                    /*tag=  i
XX
PN   WO9640959-A1.
XX
PD   19-DEC-1996.
XX
PF   07-JUN-1996;   96WO-US09629.
XX
PR   07-JUN-1995;   95US-0481917.
XX
PA   (CYTO-) CYTOTHERAPEUTICS INC.
XX
PI   Saydoff J,  Wong S;
XX
DR   WPI; 1997-087062/08.
XX
PT   Stably transformed cells expressing endorphin, enkephalin and
PT   catecholamine - and artificial organs contg. them, useful for
PT   control of pain, esp. implanted in the CNS
XX
PS   Example; Page 78-81; 114pp; English.
XX
CC   A DNA sequence (AAT62543) comprises a fusion between IgSP, a human
CC   pro-opiomelanocortin (POMC) gene in which the ACTH portion has
CC   been deleted (see also AAT62524), a viral IRES, a truncated rat
CC   tyrosine hydroxylase gene (see also AAT62529), another IRES and
CC   a bovine dopamine beta-hydroxylase (bDBH) (see also AAT62535).
CC   Host cell lines (e.g. RIN rat pancreatic endocrine) transformed
CC   with a vector carrying the construct can convert the POMC-delACTH
CC   to beta-endorphin, and utilise endogenous catecholamine synthetic
CC   enzymes with the recombinant TH and DBH sequences to produce
CC   norepinephrine.  Sequential transformation of such cells with diff.
CC   vectors, or with a polycistronic vector (see also AAT62548), allows
CC   prodn. of cell lines that produce more than one analgesic cpd.
CC   Such cell lines can be encapsulated to form bioartificial organs
CC   that can be implanted e.g. in the CNS for the control of pain.
XX
SQ   Sequence 4499 BP; 927 A; 1399 C; 1268 G; 905 T; 0 other;
```

Query Match 51.1%; Score 1391.8; DB 18; Length 4499;
Best Local Similarity 85.7%; Pred. No. 8.9e-293;
Matches 1546; Conservative 0; Mismatches 257; Indels 0; Gaps 0;

```
Qy        50 CATGTACAGCACAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTC 109
Db      2691 CATGTACGGCACCGCGGTGGCCGTCTTCCTGGTCATCCTCGTGGCTGCACTGCAGGGCTC 2750

Qy       110 GGCTCCCCGTGAGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGA 169
Db      2751 GGCTCCCGCCGAGAGCCCCTTCCCCTTCCACATCCCCCTGGACCCCGAGGGGACCCTGGA 2810

Qy       170 GCTCTCATGGAATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAG 229
Db      2811 GCTGTCCTGGAACATCAGCTATGCGCAGGAGACCATCTACTTCCAGCTCCTGGTGCGGGA 2870

Qy       230 GCTCAAGGCTGGCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCT 289
Db      2871 GCTCAAGGCTGGTGTCCTGTTTGGGATGTCGAACCGAGGGGAGCTGGAGAATGCTGACTT 2930

Qy       290 CGTGGTGCTCTGGACCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAA 349
Db      2931 GGTGGTGCTCTGGACTGACAGGGACGGCGCCTACTTTGGGGATGCCTGGAGTGACCAGAA 2990

Qy       350 GGGGCAGATCCACCTGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCC 409
Db      2991 GGGGCAGGTCCACCTGGACTCCCAGCAGGATTACCAGCTTCTGCGGGCACAGAGGACTCC 3050

Qy       410 AGAAGGCCTGACCCTGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCT 469
Db      3051 AGAAGGCCTGTACCTGCTCTTCAAGAGGCCTTTTGGCACCTGTGACCCCAACGACTACCT 3110

Qy       470 CATTGAAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACT 529

Db      3111 CATCGAGGACGGCACCGTCCACCTGGTGTATGGATTCCTGGAGGAGCCGCTCCGGTCGCT 3170

Qy       530 GGAGGCCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCC 589
Db      3171 GGAGTCCATCAACACATCCGGCTTGCACACGGGGCTGCAGAGGGTGCAGCTGCTGAAGCC 3230

Qy       590 CAATATCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAA 649
Db      3231 CAGCATCCCCAAGCCGGCCCTGCCCGCGGACACGCGCACCATGGAGATCCGCGCCCCCGA 3290

Qy       650 TATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGG 709
Db      3291 CGTCCTCATCCCCGGCCAGCAGACCACGTACTGGTGCTACGTGACCGAGCTCCCGGACGG 3350

Qy       710 CTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCT 769
Db      3351 CTTCCCCCGGCACCACATCGTCATGTACGAGCCCATCGTCACCGAGGGCAACGAGGCGCT 3410

Qy       770 TGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGAGATGGACAGCGTCCCCCACTTCAG 829
Db      3411 GGTGCACCACATGGAGGTCTTCCAGTGCGCCGCCGAGTTCGAGACCATCCCCCACTTCAG 3470

Qy       830 CGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGC 889
Db      3471 CGGGCCCTGCGACTCCAAGATGAAGCCGCAGCGGCTCAACTTCTGCCGTCACGTGCTGGC 3530

Qy       890 CGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGG 949
Db      3531 CGCCTGGGCCCTGGGCGCCAAGGCCTTTTACTACCCAGAGGAAGCAGGCCTGGCCTTCGG 3590

Qy       950 GGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 1009
Db      3591 GGGGCCCGGCTCCTCCAGATTTCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGAT 3650

Qy      1010 AGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTT 1069
Db      3651 AACAGGCCGGCGCGACTCCTCGGGCATCCGCCTGTACTACACGGCTGCGCTGCGGCGCTT 3710

Qy      1070 CAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACG 1129
Db      3711 CGACGCGGGCATCATGGAGCTGGGCCTGGCGTACACGCCCGTGATGGCCATCCCCCCGCA 3770

Qy      1130 GGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTGCC 1189
Db      3771 GGAGACGGCCTTCGTCCTCACCGGCTACTGCACGGACAAGTGCACCCAGCTGGCCCTGCC 3830

Qy      1190 TCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGT 1249
Db      3831 CGCCTCAGGGATTCACATCTTCGCCTCTCAGCTCCACACGCACCTGACCGGCCGGAAGGT 3890

Qy      1250 GGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTA 1309
Db      3891 GGTCACAGTGCTGGCCAGGGACGGCCGGGAGACAGAGATCGTGAACAGGGACAACCACTA 3950

Qy      1310 CAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGA 1369
Db      3951 CAGCCCACACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCTGTCCAGCCGGGAGA 4010

Qy      1370 TGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGG 1429
Db      4011 CGTGCTCATCACCTCTTGCACATACAACACGGAAGACAGGAGGCTGGCCACCGTGGGGGG 4070

Qy      1430 CTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCCCCAGACGCAGCT 1489
Db      4071 CTTCGGGATCCTGGAGGAGATGTGCGTCAACTATGTGCACTACTACCCCCAGACGCAGCT 4130

Qy      1490 GGAGCTCTGCAAGACGGCTGTGGACGCCGGCTTCCTGCAGAAGTACTTCCACCTCATCAA 1549
Db      4131 GGAGCTCTGCAAGAGCGCCGTGGACCCTGGCTTCCTGCACAAGTACTTCCCCCTCGTGAA 4190

Qy      1550 CAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTTCAC 1609
Db      4191 CAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTTCAC 4250
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Db       4191 CAGGTTCAACAGCGAGGAAGTCTGCACCTGCCCCCAGGCGTCTGTCCCTGAGCAGTTTGC 4250

Qy       1610 CTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGCGCC 1669
              ||| || |||||||||||||||||||||||| || || |||||||||||| ||||||| ||
Db       4251 CTCCGTGCCCTGGAACTCCTTCAACCGCGAGGTGCTCAAGGCCCTGTACGGCTTCGCACC 4310

Qy       1670 CATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGGGTGAATGGAACCTGCA 1729
              |||||||||||||||||||| |||||| |||||||||| |||||| || ||||| | |||
Db       4311 CATCTCCATGCACTGCAACAGGTCCTCGGCCGTCCGCTCCCAGGGCGAGTGGAATCGGCA 4370

Qy       1730 GCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCCCACCCCACAGTGCCCCACCAGCCA 1789
              |||||||||  || || | ||||   |||||||||||||||| || |||||  |||||||
Db       4371 GCCCCTGCCTGAGATCGTGTCCAGGTTGGAAGAGCCCACCCCTCACTGCCCAGCCAGCCA 4430

Qy       1790 GGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCATTGGTGGGGGCAAAGGCTGAGGGGG 1849
              ||  |  ||||| || ||||||||||  | | |||  ||||||||||||||||  | |
Db       4431 GGCTCAGAGCCCCGCCGGCCCCACCGTGCTGAACATCAGTGGGGGCAAAGGCTGAACGTG 4490

Qy       1850 GAC 1852
              |||
Db       4491 GGC 4493
```

RESULT 10
AAD46712
ID AAD46712 standard; DNA; 30781 BP.
XX
AC AAD46712;
XX
DT 27-JAN-2003 (first entry)
XX
DE Human DBH genomic DNA.
XX
KW Human; dopamine beta-hydroxylase; DBH; chronic activation; miscarriage;
KW congestive heart failure; still birth; foetal death; neonatal death;
KW dementia; bipolar disorder; noradrenergic disease; attention deficit;
KW depression; schizophrenia; hyperactivity disorder; cardiant; ds.
XX
OS Homo sapiens.
XX
PN WO200272006-A2.
XX
PD 19-SEP-2002.
XX
PF 07-MAR-2002; 2002WO-US06893.
XX
PR 07-MAR-2001; 2001US-274095P.
XX
PA (MCLE-) MCLEAN HOSPITAL CORP.
XX
PI Kim K, Kim C, Robertson D;
XX
DR WPI; 2002-723279/78.
XX
PT Identifying dopamine beta-hydroxylase inhibitor for treating congestive
PT heart failure, by contacting candidate compound with dopamine
PT beta-hydroxylase polypeptide region and detecting binding of compound
PT to the region -
XX
PS Disclosure; Page 63-72; 76pp; English.
XX
CC The present invention relates to a method of determining if a compound
CC is a potentially useful dopamine beta-hydroxylase (DBH) inhibitor. The
CC method involves contacting with a DBH polypeptide region and detecting
CC binding of a compound to the polypeptide or detecting DBH biological
CC activity where binding indicates that compound is a DBH inhibitor. The
CC method is useful for determining whether a compound is a potentially
CC useful DBH inhibitor where the DBH inhibitor is useful for the treatment
CC of a patient with congestive heart failure or chronic activation of
CC sympathetic nerve function or the inhibitor increases dopamine levels
CC that benefits renal function in a patient with congestive heart failure.
CC It is useful for determining whether a patient has an increased risk of
CC miscarriage, still birth, foetal or neonatal death, dementia, bipolar
CC disorder, noradrenergic disease, depression, schizophrenia or attention
CC deficit/hyperactivity disorder. The method is useful for the development
CC of drugs that specifically inhibit DBH biological activity. The present
CC sequence is human DBH genomic DNA.
XX
SQ Sequence 30781 BP; 6458 A; 8672 C; 8803 G; 6848 T; 0 other;

Query Match 37.3%; Score 1016.8; DB 24; Length 30781;
Best Local Similarity 99.8%; Pred. No. 4.6e-211;
Matches 1018; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy       1706 CTTCCAGGGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCC 1765
              ||| ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      27673 CTTGCAGGGTGAATGGAACCTGCAGCCCCTGCCCAAGGTCATCTCCACACTGGAAGAGCC 27732

Qy       1766 CACCCCACAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCAT 1825
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      27733 CACCCCACAGTGCCCCACCAGCCAGGGCCGAAGCCCTGCTGGCCCCACCGTTGTCAGCAT 27792

Qy       1826 TGGTGGGGGCAAAGGCTGAGGGGGGACCTACTCCTCCCCCTCCTCCATGCTGTCCCTGTG 1885
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      27793 TGGTGGGGGCAAAGGCTGAGGGGGGACCTACTCCTCCCCCTCCTCCATGCTGTCCCTGTG 27852

Qy       1886 GGCTCACACCGGCACTGTGCACTCTACTCTGCGACGATCCCCATGGAACAGCCCTGCACG 1945
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      27853 GGCTCACACCGGCACTGTGCACTCTACTCTGCGACGATCCCCATGGAACAGCCCTGCACG 27912

Qy       1946 CCCAGGATGAAGGGGCCAGACCACGCCCCTGCCTGAGACCACGGTCCAATCCAGCCTTCT 2005
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      27913 CCCAGGATGAAGGGGCCAGACCACGCCCCTGCCTGAGACCACGGTCCAATCCAGCCTTCT 27972

Qy       2006 TCCCCCAGGGTCCCCTGCATGGCTGAGAGGGTGTGGGTGCCCTGTTGACCTACCCTGGAC 2065
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      27973 TCCCCCAGGGTCCCCTGCATGGCTGAGAGGGTGTGGGTGCCCTGTTGACCTACCCTGGAC 28032

Qy       2066 CGAGTGGACCACGACCTCGTCCATTTAAACCCGGCTGACTCAGTGCAGGGACAGCCCGCA 2125
              |||||||||||||||||||||||||||||||||||||||||||||||||||||||||| |||
Db      28033 CGAGTGGACCACGACCTCGTCCATTTAAACCCGGCTGACTCAGTGCAGGGACAGCCTGCA 28092

Qy       2126 CAGTGGTCCAGGGTCCAGCCCTCCGCCAGCCCTGTTCCGCCTCACTGGGTGTGGCCTGGC 2185
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28093 CAGTGGTCCAGGGTCCAGCCCTCCGCCAGCCCTGTTCCGCCTCACTGGGTGTGGCCTGGC 28152

Qy       2186 TTCTGGGACAGGCACCATGCTGGGCCGGGGTGTGGAATCACCGGGAACGCCCCCGCCCCC 2245
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28153 TTCTGGGACAGGCACCATGCTGGGCCGGGGTGTGGAATCACCGGGAACGCCCCCGCCCCC 28212

Qy       2246 GCCCCGCTGCTCCCGGTGTGCAGCGGGTGCGGGTGCCGCTTAAACATTTCCCTGCTGAGT 2305
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28213 GCCCCGCTGCTCCCGGTGTGCAGCGGGTGCGGGTGCCGCTTAAACATTTCCCTGCTGAGT 28272

Qy       2306 GGCTCGTGTTTCACAGTGGGCGGCTTCCCTGCGACGGAGGCAGGACCAGGCATTTAGCTA 2365
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28273 GGCTCGTGTTTCACAGTGGGCGGCTTCCCTGCGACGGAGGCAGGACCAGGCATTTAGCTA 28332

Qy       2366 GTTAGAGACTCGCCTGGGAAATTGCTCCATTCCTGAGTAAACAGATATTTTCGCCCACCT 2425
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28333 GTTAGAGACTCGCCTGGGAAATTGCTCCATTCCTGAGTAAACAGATATTTTCGCCCACCT 28392

Qy       2426 AAAGGGAAGCCCTGACAACAACTATCACCAAAAGACGAGGCGGCAAAGATCCAGCGGGGC 2485
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28393 AAAGGGAAGCCCTGACAACAACTATCACCAAAAGACGAGGCGGCAAAGATCCAGCGGGGC 28452

Qy       2486 TTCTGGGCGCCGGTTCCACGTGGGGTGGAATTATTAGCACCAGCTTGCTTCTCTGCCGGT 2545
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28453 TTCTGGGCGCCGGTTCCACGTGGGGTGGAATTATTAGCACCAGCTTGCTTCTCTGCCGGT 28512

Qy       2546 GGGGCCAGCGCTGAACAGACCGGGGTGGAGTCAGGGCTGTGCTTTCCGCGTGGTTCTGCC 2605
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28513 GGGGCCAGCGCTGAACAGACCGGGGTGGAGTCAGGGCTGTGCTTTCCGCGTGGTTCTGCC 28572

Qy       2606 ACTTAGGGAGTGTGCCTTGGGCGGGCCATTTCACATTCCTGACCCTCACTTTTCTCATCT 2665
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Db      28573 ACTTAGGGAGTGTGCCTTGGGCGGGCCATTTCACATTCCTGACCCTCACTTTTCTCATCT 28632

Qy       2666 GTAAAACCAGGCTGATGCCGTGCGGGCTAATGAGCCAATAAAGCTCACACTTGGGCTGGC 2725
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      28633 GTAAAACCAGGCTGATGCCGTGCGGGCTAATGAGCCAATAAAGCTCACACTTGGGCTGGC 28692


RESULT 11
AAK75860/c
ID   AAK75860 standard; DNA; 821 BP.
XX
AC   AAK75860;
XX
DT   07-NOV-2001  (first entry)
XX
DE   Human immune/haematopoietic antigen genomic sequence SEQ ID NO:30672.
XX
KW   Human; immune; haematopoietic; immune/haematopoietic antigen; cancer;
KW   cytostatic; gene therapy; vaccine; metastasis; ds.
XX
OS   Homo sapiens.
XX
PN   WO200157182-A2.
XX
PD   09-AUG-2001.
XX
PF   17-JAN-2001; 2001WO-US01354.
XX
PR   31-JAN-2000; 2000US-0179065.
PR   04-FEB-2000; 2000US-0180628.
PR   24-FEB-2000; 2000US-0184664.
PR   02-MAR-2000; 2000US-0186350.
PR   16-MAR-2000; 2000US-0189874.
PR   17-MAR-2000; 2000US-0190076.
PR   18-APR-2000; 2000US-0198123.
PR   19-MAY-2000; 2000US-0205515.
PR   07-JUN-2000; 2000US-0209467.
PR   28-JUN-2000; 2000US-0214886.
PR   30-JUN-2000; 2000US-0215135.
PR   07-JUL-2000; 2000US-0216647.
PR   07-JUL-2000; 2000US-0216880.
PR   11-JUL-2000; 2000US-0217487.
PR   11-JUL-2000; 2000US-0217496.
PR   14-JUL-2000; 2000US-0218290.
PR   26-JUL-2000; 2000US-0220963.
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PR   01-DEC-2000; 2000US-0250391.
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PR   08-DEC-2000; 2000US-0251868.
PR   08-DEC-2000; 2000US-0251869.
PR   08-DEC-2000; 2000US-0251989.
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PR   11-DEC-2000; 2000US-0254097.
PR   05-JAN-2001; 2001US-0259678.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Rosen CA,  Barash SC,  Ruben SM;
XX
DR   WPI; 2001-483426/52.
XX
PT   Nucleic acids encoding human immune/hematopoietic antigen polypeptides,
PT   useful for preventing, diagnosing and/or treating cancers and
PT   metastasis -
XX
PS   Disclosure; SEQ ID NO 30672; 3071pp + Sequence Listing; English.
XX
CC   AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I)
CC   amino acid sequences given in AAM82170 to AAM91921. (I) have cytostatic
CC   activity, and can be used in gene therapy and vaccine production. (I)
CC   proteins and polynucleotides may be used in the prevention, diagnosis and
CC   treatment of diseases associated with inappropriate (I) expression. For
CC   example, they may be used to treat disorders associated with decreased
CC   expression by rectifying mutations or deletions in a patient's genome
CC   that affect the activity of (I) by expressing inactive proteins or to
CC   supplement the patients own production of (I). Additionally, (I)
CC   polynucleotides may be used to produce the secreted (I), by inserting
CC   the nucleic acids into a host cell and culturing the cell to express the
CC   protein. (I) proteins and polynucleotides may be used to prevent,
CC   diagnose and treat immune/haematopoietic-related diseases, especially
CC   cancers and cancer metastases of haematopoietic-derived cells. AAK64703
CC   to AAK87694 represent human immune/haematopoietic antigen genomic
CC   sequences from the present invention. AAK54942 to AAK54950 and AAM82169
CC   represent sequences used in the exemplification of the present invention.
XX
SQ   Sequence 821 BP; 175 A; 251 C; 251 G; 144 T; 0 other;

  Query Match             25.3%;  Score 689.4;  DB 22;  Length 821;
  Best Local Similarity   99.9%;  Pred. No. 2.9e-140;
  Matches  690;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       2035 GGTGTGGGTGCCCTGTTGACCTACCCTGGACCGAGTGGACCACGACCTCGTCCATTTAAA 2094
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        821 GGTGTGGGTGCCCTGTTGACCTACCCTGGACCGAGTGGACCACGACCTCGTCCATTTAAA 762

Qy       2095 CCCGGCTGACTCAGTGCAGGGACAGCCCGCACAGTGGTCCAGGGTCCAGCCCTCCGCCAG 2154
             |||||||||||||||||||||||||| ||||||||||||||||||||||||||||||||
Db        761 CCCGGCTGACTCAGTGCAGGGACAGCCTGCACAGTGGTCCAGGGTCCAGCCCTCCGCCAG 702

Qy       2155 CCCTGTTCCGCCTCACTGGGTGTGGCCTGGCTTCTGGGACAGGCACCATGCTGGGCCGGG 2214
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        701 CCCTGTTCCGCCTCACTGGGTGTGGCCTGGCTTCTGGGACAGGCACCATGCTGGGCCGGG 642

Qy       2215 GTGTGGAATCACCGGGAACGCCCCCGCCCCCGCCCCGCTGCTCCCGGTGTGCAGCGGGTG 2274
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        641 GTGTGGAATCACCGGGAACGCCCCCGCCCCCGCCCCGCTGCTCCCGGTGTGCAGCGGGTG 582

Qy       2275 CGGGTGCCGCTTAAACATTTCCCTGCTGAGTGGCTCGTGTTTCACAGTGGGCGGCTTCCC 2334
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        581 CGGGTGCCGCTTAAACATTTCCCTGCTGAGTGGCTCGTGTTTCACAGTGGGCGGCTTCCC 522

Qy       2335 TGCGACGGAGGCAGGACCAGGCATTTAGCTAGTTAGAGACTCGCCTGGGAAATTGCTCCA 2394
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        521 TGCGACGGAGGCAGGACCAGGCATTTAGCTAGTTAGAGACTCGCCTGGGAAATTGCTCCA 462

Qy       2395 TTCCTGAGTAAACAGATATTTTCGCCCACCTAAAGGGAAGCCCTGACAACAACTATCACC 2454
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        461 TTCCTGAGTAAACAGATATTTTCGCCCACCTAAAGGGAAGCCCTGACAACAACTATCACC 402

Qy       2455 AAAAGACGAGGCGGCAAAGATCCAGCGGGGCTTCTGGGCGCCGGTTCCACGTGGGGTGGA 2514
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        401 AAAAGACGAGGCGGCAAAGATCCAGCGGGGCTTCTGGGCGCCGGTTCCACGTGGGGTGGA 342

Qy       2515 ATTATTAGCACCAGCTTGCTTCTCTGCCGGTGGGGCCAGCGCTGAACAGACCGGGGTGGA 2574
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Db        341 ATTATTAGCACCAGCTTGCTTCTCTGCCGGTGGGGCCAGCGCTGAACAGACCGGGGTGGA 282

Qy       2575 GTCAGGGCTGTGCTTTCCGCGTGGTTCTGCCACTTAGGGAGTGTGCCTTGGGCGGGCCAT 2634
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Db        281 GTCAGGGCTGTGCTTTCCGCGTGGTTCTGCCACTTAGGGAGTGTGCCTTGGGCGGGCCAT 222

Qy       2635 TTCACATTCCTGACCCTCACTTTTCTCATCTGTAAAACCAGGCTGATGCCGTGCGGGCTA 2694
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Qy       2695 ATGAGCCAATAAAGCTCACACTTGGGCTGGC 2725
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Db        161 ATGAGCCAATAAAGCTCACACTTGGGCTGGC 131


RESULT 12
AAC70719
ID   AAC70719 standard; DNA; 358 BP.
XX
AC   AAC70719;
XX
DT   09-FEB-2001  (first entry)
XX
DE   Single nucleotide polymorphism containing sequence #183.
XX
KW   Single nucleotide polymorphism; SNP; human; genetic disease;
KW   disease susceptibility; cardiovascular system; endocrine system;
KW   neurological system; forensic testing; paternity testing; ds.
XX
OS   Homo sapiens.
XX
PN   WO200058519-A2.
XX
PD   05-OCT-2000.
XX
PF   30-MAR-2000; 2000WO-US08440.
XX
PR   31-MAR-1999;   99US-0127248.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (AFFY-) AFFYMETRIX INC.
XX
PI   Altshuler D,  Cargill M,  Daley GQ,  Ireland JS,  Lander ES;
PI   Lipshutz RJ,  Patil N,  Sklar P;
XX
DR   WPI; 2000-611722/58.
XX
PT   Nucleic acid selected from one of 106 genes comprising single
PT   nucleotide polymorphisms, allele-specific oligonucleotides to the genes
PT   are useful for phenotypic correlations, forensics, paternity testing,
PT   medicine and genetic analysis -
XX
PS   Claim 1; Fig 5; 214pp; English.
XX
CC   The present invention is concerned with a number of human single
CC   nucleotide polymorphisms (SNPs) which the inventors identified in human
CC   genes. These SNPs can be used in disease diagnosis and prediction of an
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CC   individual's susceptibility to disease, in forensic and paternity testing
CC   and in genetic mapping. In particular, the SNPs of the invention can be
CC   used to diagnose susceptibility to diseases of the cardiovascular,
CC   endocrine and neurological systems, such as coronary artery disease,
CC   schizophrenia, cancer, autoimmune diseases, Alzheimer's and Parkinson's
CC   diseases.
CC   Note: The degenerate codon within the sequence represents the position
CC   of an SNP, for example the letter S represents a polymorphism where the
CC   nucleotide may be C or G.
XX
SQ   Sequence 358 BP; 58 A; 125 C; 109 G; 65 T; 1 other;

  Query Match             11.7%;  Score 318.6;  DB 21;  Length 358;
  Best Local Similarity   99.7%;  Pred. No. 9.6e-60;
  Matches  318;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 TCAGTCGCTGGGCCAGCCTGCCCGGCCCCAGCATGCGGGAGGCAGCCTTCATGTACAGCA 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         40 TCAGTCGCTGGGCCAGCCTGCCCGGCCCCAGCATGCGGGAGGCAGCCTTCATGTACAGCA 99

Qy         61 CAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTCGGCTCCCCGTG 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        100 CAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTCGGCTCCCCGTG 159

Qy        121 AGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGAGCTCTCATGGA 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        160 AGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGAGCTCTCATGGA 219

Qy        181 ATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTG 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        220 ATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTG 279

Qy        241 GCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCT 300
              ||||||||||||:||||||||||||||||||||||||||||||||||||||||||||||
Db        280 GCGTCCTGTTTGSGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCT 339

Qy        301 GGACCGATGGGGACACTGC 319
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Db        340 GGACCGATGGGGACACTGC 358


RESULT 13
AAK75859/c
ID   AAK75859 standard; DNA; 18663 BP.
XX
AC   AAK75859;
XX
DT   07-NOV-2001  (first entry)
XX
DE   Human immune/haematopoietic antigen genomic sequence SEQ ID NO:30671.
XX
KW   Human; immune; haematopoietic; immune/haematopoietic antigen; cancer;
KW   cytostatic; gene therapy; vaccine; metastasis; ds.
XX
OS   Homo sapiens.
XX
PN   WO200157182-A2.
XX
PD   09-AUG-2001.
XX
PF   17-JAN-2001; 2001WO-US01354.
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PR   31-JAN-2000; 2000US-0179065.
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PR   20-OCT-2000; 2000US-0241786.
PR   20-OCT-2000; 2000US-0241787.
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PR   17-NOV-2000; 2000US-0249245.
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PR   17-NOV-2000; 2000US-0249300.
PR   01-DEC-2000; 2000US-0250160.
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PR   05-DEC-2000; 2000US-0251030.
PR   05-DEC-2000; 2000US-0251988.
PR   05-DEC-2000; 2000US-0256719.
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PR   08-DEC-2000; 2000US-0251869.
PR   08-DEC-2000; 2000US-0251989.
PR   08-DEC-2000; 2000US-0251990.
PR   11-DEC-2000; 2000US-0254097.
PR   05-JAN-2001; 2001US-0259678.
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PA   (HUMA-) HUMAN GENOME SCI INC.
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PI   Rosen CA,  Barash SC,  Ruben SM;
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DR   WPI; 2001-483426/52.
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PT   Nucleic acids encoding human immune/hematopoietic antigen polypeptides,
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PS   Disclosure; SEQ ID NO 30671; 3071pp + Sequence Listing; English.
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CC   AAK54951 to AAK64702 encode the human immune/haematopoietic antigen (I)
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CC   activity, and can be used in gene therapy and vaccine production. (I)
CC   proteins and polynucleotides may be used in the prevention, diagnosis and
CC   treatment of diseases associated with inappropriate (I) expression. For
CC   example, they may be used to treat disorders associated with decreased
CC   expression by rectifying mutations or deletions in a patient's genome
CC   that affect the activity of (I) by expressing inactive proteins or to
CC   supplement the patients own production of (I). Additionally, (I)
CC   polynucleotides may be used to produce the secreted (I), by inserting
CC   the nucleic acids into a host cell and culturing the cell to express the
CC   protein. (I) proteins and polynucleotides may be used to prevent,
CC   diagnose and treat immune/haematopoietic-related diseases, especially
CC   cancers and cancer metastases of haematopoietic-derived cells. AAK64703
CC   to AAK87694 represent human immune/haematopoietic antigen genomic
CC   sequences from the present invention. AAK54942 to AAK54950 and AAM82169
CC   represent sequences used in the exemplification of the present invention.
XX
SQ   Sequence 18663 BP; 4208 A; 5303 C; 5212 G; 3940 T; 0 other;

  Query Match             9.5%;  Score 258.4;  DB 22;  Length 18663;
  Best Local Similarity   99.6%;  Pred. No. 3e-46;
  Matches  259;  Conservative    0;  Mismatches    1;  Indels    0;  Gaps    0;

Qy        475 AAGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGG 534
              | ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      16336 AGGACGGCACTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGG 16277

Qy        535 CCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATA 594
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      16276 CCATCAACGGCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATA 16217

Qy        595 TCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCC 654
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      16216 TCCCCGAACCGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCC 16157

Qy        655 AGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCT 714
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      16156 AGATCCCCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCT 16097

Qy        715 CTCGGCACCACATTATCAAG 734
              ||||||||||||||||||||
Db      16096 CTCGGCACCACATTATCAAG 16077


RESULT 14
ABL02837
ID   ABL02837 standard; cDNA; 2782 BP.
XX
AC   ABL02837;
XX
DT   26-MAR-2002  (first entry)
XX
DE   Drosophila melanogaster expressed polynucleotide SEQ ID NO 2993.
XX
KW   Drosophila; developmental biology; cell signalling; insecticide;
KW   pharmaceutical; gene; ss.
XX
OS   Drosophila melanogaster.
XX
PN   WO200171042-A2.
XX
PD   27-SEP-2001.
XX
PF   23-MAR-2001; 2001WO-US09231.
XX
PR   23-MAR-2000; 2000US-191637P.
PR   11-JUL-2000; 2000US-0614150.
XX
PA   (PEKE ) PE CORP NY.
XX
PI   Venter JC,  Adams M,  Li PWD,  Myers EW;
XX
DR   WPI; 2001-656860/75.
DR   P-PSDB; ABB58734.
XX
PT   New isolated nucleic acid detection reagent for detecting 1000 or more
PT   genes from Drosophila and for elucidating cell signalling and cell-cell
PT   interactions -
XX
PS   Claim 1; SEQ ID NO 2993; 21pp + Sequence Listing; English.
```

XX
CC The invention relates to an isolated nucleic acid detection reagent
CC capable of detecting 1000 or more genes from Drosophila. The invention is
CC useful in developmental biology and in elucidating cell signalling and
CC cell-cell interactions in higher eukaryotes for the development of
CC insecticides, therapeutics and pharmaceutical drugs. The invention
CC discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA
CC sequences (ABL01840-ABL16175) and the encoded proteins
CC (ABB57737-ABB72072).
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 2782 BP; 681 A; 728 C; 699 G; 674 T; 0 other;

Query Match 9.4%; Score 255.6; DB 23; Length 2782;
Best Local Similarity 51.8%; Pred. No. 7.7e-46;
Matches 714; Conservative 0; Mismatches 639; Indels 25; Gaps 5;

```
Qy       375 CAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCCTGCTTTTCAAG 434
Db       610 CGGGACTACCAGCAGGACTGTGAGGTCTTCAAGATGGATGAGTTCACGTTGGCGTTTAGG 669

Qy       435 AGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCACTGTCCACTTG 494
Db       670 CGCAAGTTTGACACCTGCGACCCTTTGGATTTGCGACTCCATGAGGGCACAATGTACGTG 729

Qy       495 GTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACGGCTCGGGCCTG 554
Db       730 GTTT--GGGCCCGTGGTGAAACGGAACTGGCCCTGGAGGATCACCAGTTCGCTCTGCCCA 787

Qy       555 CAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAACCGGAGTTGCCC 614
Db       788 ATGTGACGGCACCGCACGAGGCGGGTGTTAAGATGCTACAGCTACTACGGGCCGACAAGA 847

Qy       615 T--------------CAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCC 660
Db       848 TACTTATACCCGAAACCGAGTTGGATCACATGGAGATCACACTGCAGGAGGCGCCAATTC 907

Qy       661 CCAGCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGC 720
Db       908 CCAGTCAGGAGACCACGTACTGGTGTCACGTTCAGCGACTGG---AGGGCAATCTCCGGC 964

Qy       721 ACCACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACA 780
Db       965 GTCGCCATCATATCGTTCAGTTCGAGCCGCTCATCCGAACGCCGGGCATCGTGCATCACA 1024

Qy       781 TGGAAGTCTTCCAGTGCGCCCCCGAGATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
Db      1025 TGGAAGTGTTTCACTGCGAGGCCGGTGAGCACGAGGAGATTCCCCTGTAC---AACGGCG 1081

Qy       841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900
Db      1082 ACTGTGAACAGTTGCCGCCACGGGCCAAGATCTGCTCAAAAGTGATGGTCCTGTGGGCCA 1141

Qy       901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960
Db      1142 TGGGCGCGGGCACCTTTACCTATCCTCCGGAAGCCGGTCTACCAATCGGCGGACCCGGCT 1201

Qy       961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020
Db      1202 TCAATCCGTACGTTCGACTGGAGGTACATTTCAATAATCCGGAGAAGCAGTCGGGCTTGG 1261

Qy      1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080
Db      1262 TGGACAACTCCGGCTTTCGCATCAAGATGTCGAAGACACTGCGTCAGTATGACGCCGCCG 1321

Qy      1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140
Db      1322 TTATGGAACTGGGTCTGGAGTACACCGACAAAATGGCCATTCCGCCTGGCCAAACCGCTT 1381

Qy      1141 TCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTGCCTCCCTCCGGGA 1200
Db      1382 TCCCGCTGAGCGGCTATTGTGTGGCGGACTGCACACGAGCCGCTCTGCCGGCGACGGGCA 1441

Qy      1201 TCCACATCTTCGCCTCTCAGCTCCACACACCTGACTGGGAGAAAGGTGGTCACAGTGC 1260
Db      1442 TCATCATCTTTGGCTCTCAGCTGCATACGCATCTGCGTGGCGTTCGCGTCCTAACCCGGC 1501

Qy      1261 TGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACT 1320
Db      1502 ACTTTCGCGGCGAACAGGAGCTGCGCGAGGTGAACCGCGATGACTACTACTCGAATCACT 1561

Qy      1321 TCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTGCTCATCA 1380
Db      1562 TCCAGGAGATGCGCACCCTGCACTACAAGCCGCGTGTCCTGCCCGGCGACGCTTTGGTAA 1621

Qy      1381 CCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTCGGGATCC 1440
Db      1622 CCACTTGTTACTACAATACCAAGGATGACAAGACCGCCGCCCTCGGCGGATTCTCCATCA 1681

Qy      1441 TGGAGGAGATGTGTGTCAACTACGTGCACTACTACCCCCAGACGCAGCTGGAGCTCTGCA 1500
Db      1682 GCGATGAGATGTGCGTCAACTATATCCACTACTATCCGGCCACCAAACTGGAGGTCTGCA 1741

Qy      1501 AGACGGCTGTGGACGCCGGCTTCCTGCAGAAGTACTTCCACCTCATCAACAGGTTCAACA 1560
Db      1742 AGAGTTCCGTTTCCGAGGAGACGCTCGAGAATTACTTTATTTACATGAAGCGCACGGAGC 1801

Qy      1561 ACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTTCACCTCTGTTCCCT 1620
Db      1802 ATCAGCATG---GCGTGCATTTGAATGGAGCCAGGTCGTCCAATTACCGGAGCATCGAAT 1858

Qy      1621 GGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGCGCCCATCTCCATGC 1680
Db      1859 GGACCCAGCCGCGTATCGATCAGCTGTACACCATGTACATGCAGGAGCCGCTGAGCATGC 1918

Qy      1681 ACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGGGTGAATGGAACCTGCAGCCCCTGCC 1738
Db      1919 AGTGCAACAGGTCCGATGGCACTCGCTTCGAGGGGCGGTCTAGCTGGGAGGGCGTGGC 1976
```

RESULT 15
ABL34297/c
ID ABL34297 standard; DNA; 2037 BP.
XX
AC ABL34297;
XX
DT 26-MAR-2002 (first entry)
XX
DE Human immune system associated gene SEQ ID NO: 2270.
XX
KW Human; immune system disease; cytosine methylation; antiasthmatic;
KW antiarteriosclerotic; antianaemic; cytostatic; nootropic;
KW neuroprotective; anti-HIV; anticonvulsant; ophthalmological;
KW antirheumatic; antiarthritic; antidiabetic; antipsoriatic;
KW antiinflammatory; cancer; eye disease; arteriosclerosis; anaemia;
KW acute myeloid leukaemia; Alzheimer's disease; AIDS; epilepsy;
KW neurofibromatosis; rheumatoid arthritis; psoriasis; bowel disease;
KW gene; ds.
XX
OS Homo sapiens.
XX
PN WO200200928-A2.
XX
PD 03-JAN-2002.
XX
PF 02-JUL-2001; 2001WO-EP07537.
XX
PR 30-JUN-2000; 2000DE-1032529.
PR 01-SEP-2000; 2000DE-1043826.
XX
PA (EPIG-) EPIGENOMICS AG.
XX
PI Olek A, Piepenbrock C, Berlin K;
XX

DR WPI; 2002-130909/17.
XX
PT Nucleic acid comprising fragment of chemically modified gene, useful
PT for diagnosis and treatment of diseases associated with abnormal
PT cytosine methylation -
XX
PS Claim 1; SEQ ID NO 2270; 32pp + Sequence Listing; German.
XX
CC The present invention provides a number of human immune system associated
CC genes which are modified by the methylation of cytosines. The sequences
CC can be used in the diagnosis and treatment of immune system disorders,
CC including eye diseases such as retinopathy, neovascular glaucoma and
CC macular degeneration, arteriosclerosis, anaemia, cancer, acute myeloid
CC leukaemia, Alzheimer's disease, AIDS, epilepsy, neurofibromatosis,
CC rheumatoid arthritis, psoriasis and inflammatory/ulcerative bowel
CC diseases. The present sequence is a gene of the invention.
XX
SQ Sequence 2037 BP; 417 A; 49 C; 558 G; 1013 T; 0 other;

Query Match 7.1%; Score 193; DB 24; Length 2037;
Best Local Similarity 74.2%; Pred. No. 2.9e-32;
Matches 244; Conservative 0; Mismatches 85; Indels 0; Gaps 0;

```
Qy          1 TCAGTCGCTGGGCCAGCCTGCCCGGCCCCAGCATGCGGGAGGCAGCCTTCATGTACAGCA 60
              ||| |||||   ||| ||| |||| ||||| ||| ||  |  || ||||||| |||| ||
Db        338 TCAATCGCTAAACCAACCTACCCGACCCCAACATACGAAAAACAACCTTCATATACAACA 279

Qy         61 CAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTCGGCTCCCCGTG 120
              || || |  |||||||||  |||||||  |  ||||||| ||   |||| ||||||||
Db        278 CAACAATAACCATCTTCCTAATCATCCTAATAACCGCACTACAAAACTCGACTCCCCGTA 219

Qy        121 AGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGAGCTCTCATGGA 180
              | | ||||||||||||||||||||||||  ||||| |     |||||  | |||||||  |
Db        218 AAAACCCCCTCCCCTATCACATCCCCCTAAACCCGAAAAAATCCCTAAAACTCTCATAAA 159

Qy        181 ATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTG 240
              || ||| |||||||||  |  ||||||||||||| |||||  | || |  |||||  ||
Db        158 ATATCAACTACACCCAAAAAACCATCCATTTCCAACTCCTAATACGAAAACTCAAAACTA 99

Qy        241 GCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCT 300
               |||||| |||   || |||||||||  ||| ||| | |||||| |||||||  | ||||
Db         98 ACGTCCTATTTAAAATATCCGACCGTAACGAACTTAAAAACGCAAATCTCGTAATACTCT 39

Qy        301 GGACCGATGGGGACACTGCCTATTTTGCG 329
                ||||||    ||||| |||||||| ||
Db         38 AAACCGATAAAAACACTACCTATTTTACG 10
```

RESULT 16
AAD28399/c
ID AAD28399 standard; DNA; 2037 BP.
XX
AC AAD28399;
XX
DT 22-APR-2002 (first entry)
XX
DE Human chemically treated genomic DNA #40.
XX
KW Human; cytostatic; antidepressant; neuroleptic; nootropic; antiaddictive;
KW adrenergic alpha-1C-receptor; cytosine methylation; therapy; alcoholism;
KW behavioural disorder; neurological; psychiatric; cancer; schizophrenia;
KW Tourette's syndrome; smoking; human immunodeficiency virus dementia;
KW drug abuse; migraine; ds.
XX
OS Homo sapiens.
XX
PN WO200202809-A2.
XX
PD 10-JAN-2002.
XX
PF 02-JUL-2001; 2001WO-EP07540.
XX
PR 30-JUN-2000; 2000DE-1032529.
PR 01-SEP-2000; 2000DE-1043826.
XX
PA (EPIG-) EPIGENOMICS AG.
XX
PI Olek A, Piepenbrock C, Berlin K;
XX
DR WPI; 2002-154759/20.
XX
PT Novel nucleic acid useful for diagnosis and therapy of behavioral
PT disorder, neurological disorder and cancer, comprises a sequence of a
PT segment of chemically pretreated DNA of adrenergic alpha-1C-receptor
PT gene -
XX
PS Claim 1; Page 180; 190pp; English.
XX
CC The invention relates to nucleic acids comprising a segment of chemically
CC pretreated DNA of adrenergic alpha-1C-receptor gene. The invention also
CC relates to oligonucleotides or peptide nucleic acid (PNA) oligomers
CC useful for detecting cytosine methylations. The pretreated DNA is useful
CC for the diagnosis or therapy of behavioural disorders, neurological
CC disorders and cancer, in particular major depressive disorder, Tourette's
CC syndrome, schizophrenia, psychiatric and neurological disorders, smoking,
CC drug abuse, alcoholism, personality traits, compulsive gambling, human
CC immunodeficiency virus dementia, migraine, behaviours in schizophrenic
CC and schizoaffective patients, and suicidal behaviour in patients with
CC schizophrenia. The nucleic acid is useful for detecting the methylation
CC state of all CpG dinucleotides and/or single nucleotide polymorphisms
CC (SNPs). The present sequence is human chemically treated genomic DNA.
XX
SQ Sequence 2037 BP; 417 A; 49 C; 558 G; 1013 T; 0 other;

Query Match 7.1%; Score 193; DB 24; Length 2037;
Best Local Similarity 74.2%; Pred. No. 2.9e-32;
Matches 244; Conservative 0; Mismatches 85; Indels 0; Gaps 0;

```
Qy          1 TCAGTCGCTGGGCCAGCCTGCCCGGCCCCAGCATGCGGGAGGCAGCCTTCATGTACAGCA 60
              ||| |||||   ||| ||| |||| ||||| ||| ||  |  || ||||||| |||| ||
Db        338 TCAATCGCTAAACCAACCTACCCGACCCCAACATACGAAAAACAACCTTCATATACAACA 279

Qy         61 CAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTCGGCTCCCCGTG 120
              || || |  |||||||||  |||||||  |  ||||||| ||   |||| ||||||||
Db        278 CAACAATAACCATCTTCCTAATCATCCTAATAACCGCACTACAAAACTCGACTCCCCGTA 219

Qy        121 AGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGAGCTCTCATGGA 180
              | | ||||||||||||||||||||||||  ||||| |     |||||  | |||||||  |
Db        218 AAAACCCCCTCCCCTATCACATCCCCCTAAACCCGAAAAAATCCCTAAAACTCTCATAAA 159

Qy        181 ATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTG 240
              || ||| |||||||||  |  ||||||||||||| |||||  | || |  |||||  ||
Db        158 ATATCAACTACACCCAAAAAACCATCCATTTCCAACTCCTAATACGAAAACTCAAAACTA 99

Qy        241 GCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCT 300
               |||||| |||   || |||||||||  ||| ||| | |||||| |||||||  | ||||
Db         98 ACGTCCTATTTAAAATATCCGACCGTAACGAACTTAAAAACGCAAATCTCGTAATACTCT 39

Qy        301 GGACCGATGGGGACACTGCCTATTTTGCG 329
                ||||||    ||||| |||||||| ||
Db         38 AAACCGATAAAAACACTACCTATTTTACG 10
```

RESULT 17
ABL34296
ID ABL34296 standard; DNA; 2037 BP.
XX
AC ABL34296;
XX
DT 26-MAR-2002 (first entry)
XX
DE Human immune system associated gene SEQ ID NO: 2269.
XX
KW Human; immune system disease; cytosine methylation; antiasthmatic;
KW antiarteriosclerotic; antianaemic; cytostatic; nootropic;
KW neuroprotective; anti-HIV; anticonvulsant; ophthalmological;

KW antirheumatic; antiarthritic; antidiabetic; antipsoriatic;
KW antiinflammatory; cancer; eye disease; arteriosclerosis; anaemia;
KW acute myeloid leukaemia; Alzheimer's disease; AIDS; epilepsy;
KW neurofibromatosis; rheumatoid arthritis; psoriasis; bowel disease;
KW gene; ds.
XX
OS Homo sapiens.
XX
PN WO200200928-A2.
XX
PD 03-JAN-2002.
XX
PF 02-JUL-2001; 2001WO-EP07537.
XX
PR 30-JUN-2000; 2000DE-1032529.
PR 01-SEP-2000; 2000DE-1043826.
XX
PA (EPIG-) EPIGENOMICS AG.
XX
PI Olek A, Piepenbrock C, Berlin K;
XX
DR WPI; 2002-130909/17.
XX
PT Nucleic acid comprising fragment of chemically modified gene, useful
PT for diagnosis and treatment of diseases associated with abnormal
PT cytosine methylation -
XX
PS Claim 1; SEQ ID NO 2269; 32pp + Sequence Listing; German.
XX
CC The present invention provides a number of human immune system associated
CC genes which are modified by the methylation of cytosines. The sequences
CC can be used in the diagnosis and treatment of immune system disorders,
CC including eye diseases such as retinopathy, neovascular glaucoma and
CC macular degeneration, arteriosclerosis, anaemia, cancer, acute myeloid
CC leukaemia, Alzheimer's disease, AIDS, epilepsy, neurofibromatosis,
CC rheumatoid arthritis, psoriasis and inflammatory/ulcerative bowel
CC diseases. The present sequence is a gene of the invention.
XX
SQ Sequence 2037 BP; 417 A; 49 C; 645 G; 926 T; 0 other;

Query Match 6.6%; Score 179.6; DB 24; Length 2037;
Best Local Similarity 71.5%; Pred. No. 2.4e-29;
Matches 236; Conservative 0; Mismatches 94; Indels 0; Gaps 0;

Qy 1 TCAGTCGCTGGGCCAGCCTGCCCGGCCCCAGCATGCGGGAGGCAGCCTTCATGTACAGCA 60
Db 1700 TTAGTCGTTGGGTTAGTTTGTTCGGTTTTAGTATGCGGGAGGTAGTTTTTATGTATAGTA 1759

Qy 61 CAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTCGGCTCCCCGTG 120
Db 1760 TAGTAGTGGTTATTTTTTTGGTTATTTTGGTGGTCGTATTGTAGGGTTCGGTTTTTCGTG 1819

Qy 121 AGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGAGCTCTCATGGA 180
Db 1820 AGAGTTTTTTTTTTTATTATATTTTTTTGGATTCGGAGGGGTTTTTGGAGTTTTTATGGA 1879

Qy 181 ATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTG 240
Db 1880 ATGTTAGTTATATTTAGGAGGTTATTTATTTTTAGTTTTTGGTGCGGAGGTTTAAGGTTG 1939

Qy 241 GCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCT 300
Db 1940 GCGTTTTGTTTGGGATGTTCGATCGTGGCGAGTTTGAGAACGTAGATTTCGTGGTGTTTT 1999

Qy 301 GGACCGATGGGGACACTGCCTATTTTGCGG 330
Db 2000 GGATCGATGGGGATATTGTTTATTTTGCGG 2029

RESULT 18
AAD28398
ID AAD28398 standard; DNA; 2037 BP.
XX
AC AAD28398;
XX
DT 22-APR-2002 (first entry)
XX
DE Human chemically treated genomic DNA #39.
XX
KW Human; cytostatic; antidepressant; neuroleptic; nootropic; antiaddictive;
KW adrenergic alpha-1C-receptor; cytosine methylation; therapy; alcoholism;
KW behavioural disorder; neurological; psychiatric; cancer; schizophrenia;
KW Tourette's syndrome; smoking; human immunodeficiency virus dementia;
KW drug abuse; migraine; ds.
XX
OS Homo sapiens.
XX
PN WO200202809-A2.
XX
PD 10-JAN-2002.
XX
PF 02-JUL-2001; 2001WO-EP07540.
XX
PR 30-JUN-2000; 2000DE-1032529.
PR 01-SEP-2000; 2000DE-1043826.
XX
PA (EPIG-) EPIGENOMICS AG.
XX
PI Olek A, Piepenbrock C, Berlin K;
XX
DR WPI; 2002-154759/20.
XX
PT Novel nucleic acid useful for diagnosis and therapy of behavioral
PT disorder, neurological disorder and cancer, comprises a sequence of a
PT segment of chemically pretreated DNA of adrenergic alpha-1C-receptor
PT gene -
XX
PS Claim 1; Page 178; 190pp; English.
XX
CC The invention relates to nucleic acids comprising a segment of chemically
CC pretreated DNA of adrenergic alpha-1C-receptor gene. The invention also
CC relates to oligonucleotides or peptide nucleic acid (PNA) oligomers
CC useful for detecting cytosine methylations. The pretreated DNA is useful
CC for the diagnosis or therapy of behavioural disorders, neurological
CC disorders and cancer, in particular major depressive disorder, Tourette's
CC syndrome, schizophrenia, psychiatric and neurological disorders, smoking,
CC drug abuse, alcoholism, personality traits, compulsive gambling, human
CC immunodeficiency virus dementia, migraine, behaviours in schizophrenic
CC and schizoaffective patients, and suicidal behaviour in patients with
CC schizophrenia. The nucleic acid is useful for detecting the methylation
CC state of all CpG dinucleotides and/or single nucleotide polymorphisms
CC (SNPs). The present sequence is human chemically treated genomic DNA.
XX
SQ Sequence 2037 BP; 417 A; 49 C; 645 G; 926 T; 0 other;

Query Match 6.6%; Score 179.6; DB 24; Length 2037;
Best Local Similarity 71.5%; Pred. No. 2.4e-29;
Matches 236; Conservative 0; Mismatches 94; Indels 0; Gaps 0;

Qy 1 TCAGTCGCTGGGCCAGCCTGCCCGGCCCCAGCATGCGGGAGGCAGCCTTCATGTACAGCA 60
Db 1700 TTAGTCGTTGGGTTAGTTTGTTCGGTTTTAGTATGCGGGAGGTAGTTTTTATGTATAGTA 1759

Qy 61 CAGCAGTGGCCATCTTCCTGGTCATCCTGGTGGCCGCACTGCAGGGCTCGGCTCCCCGTG 120
Db 1760 TAGTAGTGGTTATTTTTTTGGTTATTTTGGTGGTCGTATTGTAGGGTTCGGTTTTTCGTG 1819

Qy 121 AGAGCCCCCTCCCCTATCACATCCCCCTGGACCCGGAGGGGTCCCTGGAGCTCTCATGGA 180
Db 1820 AGAGTTTTTTTTTTTATTATATTTTTTTGGATTCGGAGGGGTTTTTGGAGTTTTTATGGA 1879

Qy 181 ATGTCAGCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTG 240
Db 1880 ATGTTAGTTATATTTAGGAGGTTATTTATTTTTAGTTTTTGGTGCGGAGGTTTAAGGTTG 1939

Qy 241 GCGTCCTGTTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCT 300

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                ||||  |||||||||||| ||| |||||||||  |||||||||  ||||  ||||||||  | |
Db       1940 GCGTTTTGTTTGGGATGTTCGATCGTGGCGAGTTTGAGAACGTAGATTTCGTGGTGTTTT 1999

Qy        301 GGACCGATGGGGACACTGCCTATTTTGCGG 330
                ||| |||||||||  | ||  ||||||||||
Db       2000 GGATCGATGGGGATATTGTTTATTTTGCGG 2029


RESULT 19
AAC70716
ID   AAC70716 standard; DNA; 178 BP.
XX
AC   AAC70716;
XX
DT   09-FEB-2001  (first entry)
XX
DE   Single nucleotide polymorphism containing sequence #182.
XX
KW   Single nucleotide polymorphism; SNP; human; genetic disease;
KW   disease susceptibility; cardiovascular system; endocrine system;
KW   neurological system; forensic testing; paternity testing; ds.
XX
OS   Homo sapiens.
XX
PN   WO200058519-A2.
XX
PD   05-OCT-2000.
XX
PF   30-MAR-2000; 2000WO-US08440.
XX
PR   31-MAR-1999;   99US-0127248.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (AFFY-) AFFYMETRIX INC.
XX
PI   Altshuler D,  Cargill M,  Daley GQ,  Ireland JS,  Lander ES;
PI   Lipshutz RJ,  Patil N,  Sklar P;
XX
DR   WPI; 2000-611722/58.
XX
PT   Nucleic acid selected from one of 106 genes comprising single
PT   nucleotide polymorphisms, allele-specific oligonucleotides to the genes
PT   are useful for phenotypic correlations, forensics, paternity testing,
PT   medicine and genetic analysis -
XX
PS   Claim 1; Fig 5; 214pp; English.
XX
CC   The present invention is concerned with a number of human single
CC   nucleotide polymorphisms (SNPs) which the inventors identified in human
CC   genes. These SNPs can be used in disease diagnosis and prediction of an
CC   individual's susceptibility to disease, in forensic and paternity testing
CC   and in genetic mapping. In particular, the SNPs of the invention can be
CC   used to diagnose susceptibility to diseases of the cardiovascular,
CC   endocrine and neurological systems, such as coronary artery disease,
CC   schizophrenia, cancer, autoimmune diseases, Alzheimer's and Parkinson's
CC   diseases.
CC   Note: The degenerate codon within the sequence represents the position
CC   of an SNP, for example the letter S represents a polymorphism where the
CC   nucleotide may be C or G.
XX
SQ   Sequence 178 BP; 32 A; 68 C; 39 G; 38 T; 1 other;

  Query Match             6.1%;  Score 165;  DB 21;  Length 178;
  Best Local Similarity   98.8%;  Pred. No. 2e-26;
  Matches  165;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1547 CAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTT 1606
                || ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          4 CACCAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTT 63

Qy       1607 CACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGC 1666
                ||||||||||||||||||||||||||||:||||||||||||||||||||||||||||||
Db         64 CACCTCTGTTCCCTGGAACTCCTTCAACYGCGACGTACTGAAGGCCCTGTACAGCTTCGC 123

Qy       1667 GCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGG 1713
                ||||||||||||||||||||||||||||||||||||||||||||||
Db        124 GCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGG 170


RESULT 20
AAC70722
ID   AAC70722 standard; DNA; 178 BP.
XX
AC   AAC70722;
XX
DT   09-FEB-2001  (first entry)
XX
DE   Single nucleotide polymorphism containing sequence #184.
XX
KW   Single nucleotide polymorphism; SNP; human; genetic disease;
KW   disease susceptibility; cardiovascular system; endocrine system;
KW   neurological system; forensic testing; paternity testing; ds.
XX
OS   Homo sapiens.
XX
PN   WO200058519-A2.
XX
PD   05-OCT-2000.
XX
PF   30-MAR-2000; 2000WO-US08440.
XX
PR   31-MAR-1999;   99US-0127248.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (AFFY-) AFFYMETRIX INC.
XX
PI   Altshuler D,  Cargill M,  Daley GQ,  Ireland JS,  Lander ES;
PI   Lipshutz RJ,  Patil N,  Sklar P;
XX
DR   WPI; 2000-611722/58.
XX
PT   Nucleic acid selected from one of 106 genes comprising single
PT   nucleotide polymorphisms, allele-specific oligonucleotides to the genes
PT   are useful for phenotypic correlations, forensics, paternity testing,
PT   medicine and genetic analysis -
XX
PS   Claim 1; Fig 5; 214pp; English.
XX
CC   The present invention is concerned with a number of human single
CC   nucleotide polymorphisms (SNPs) which the inventors identified in human
CC   genes. These SNPs can be used in disease diagnosis and prediction of an
CC   individual's susceptibility to disease, in forensic and paternity testing
CC   and in genetic mapping. In particular, the SNPs of the invention can be
CC   used to diagnose susceptibility to diseases of the cardiovascular,
CC   endocrine and neurological systems, such as coronary artery disease,
CC   schizophrenia, cancer, autoimmune diseases, Alzheimer's and Parkinson's
CC   diseases.
CC   Note: The degenerate codon within the sequence represents the position
CC   of an SNP, for example the letter S represents a polymorphism where the
CC   nucleotide may be C or G.
XX
SQ   Sequence 178 BP; 32 A; 69 C; 39 G; 37 T; 1 other;

  Query Match             6.1%;  Score 165;  DB 21;  Length 178;
  Best Local Similarity   98.8%;  Pred. No. 2e-26;
  Matches  165;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1547 CAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTT 1606
                || ||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          4 CACCAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTT 63

Qy       1607 CACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGC 1666
                ||||||||:||||||||||||||||||||||||||||||||||||||||||||||||||
Db         64 CACCTCTGYTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGC 123

Qy       1667 GCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGG 1713
```

```
                    ||||||||||||||||||||||||||||||||||||||||||||||||
Db        124 GCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGG 170


RESULT 21
AAC70725
ID   AAC70725 standard; DNA; 178 BP.
XX
AC   AAC70725;
XX
DT   09-FEB-2001  (first entry)
XX
DE   Single nucleotide polymorphism containing sequence #185.
XX
KW   Single nucleotide polymorphism; SNP; human; genetic disease;
KW   disease susceptibility; cardiovascular system; endocrine system;
KW   neurological system; forensic testing; paternity testing; ds.
XX
OS   Homo sapiens.
XX
PN   WO200058519-A2.
XX
PD   05-OCT-2000.
XX
PF   30-MAR-2000; 2000WO-US08440.
XX
PR   31-MAR-1999;   99US-0127248.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (AFFY-) AFFYMETRIX INC.
XX
PI   Altshuler D,  Cargill M,  Daley GQ,  Ireland JS,  Lander ES;
PI   Lipshutz RJ,  Patil N,  Sklar P;
XX
DR   WPI; 2000-611722/58.
XX
PT   Nucleic acid selected from one of 106 genes comprising single
PT   nucleotide polymorphisms, allele-specific oligonucleotides to the genes
PT   are useful for phenotypic correlations, forensics, paternity testing,
PT   medicine and genetic analysis -
XX
PS   Claim 1; Fig 5; 214pp; English.
XX
CC   The present invention is concerned with a number of human single
CC   nucleotide polymorphisms (SNPs) which the inventors identified in human
CC   genes. These SNPs can be used in disease diagnosis and prediction of an
CC   individual's susceptibility to disease, in forensic and paternity testing
CC   and in genetic mapping. In particular, the SNPs of the invention can be
CC   used to diagnose susceptibility to diseases of the cardiovascular,
CC   endocrine and neurological systems, such as coronary artery disease,
CC   schizophrenia, cancer, autoimmune diseases, Alzheimer's and Parkinson's
CC   diseases.
CC   Note: The degenerate codon within the sequence represents the position
CC   of an SNP, for example the letter S represents a polymorphism where the
CC   nucleotide may be C or G.
XX
SQ   Sequence 178 BP; 32 A; 68 C; 39 G; 38 T; 1 other;

  Query Match             6.1%;  Score 165;  DB 21;  Length 178;
  Best Local Similarity   98.8%;  Pred. No. 2e-26;
  Matches  165;  Conservative    1;  Mismatches    1;  Indels    0;  Gaps    0;

Qy       1547 CAACAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTT 1606
             || ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          4 CACCAGGTTCAACAACGAGGATGTCTGCACCTGCCCTCAGGCGTCCGTGTCTCAGCAGTT 63

Qy       1607 CACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCCCTGTACAGCTTCGC 1666
             ||||||||||||||||||||||||||||||||||||||||||:|||||||||||||||||
Db         64 CACCTCTGTTCCCTGGAACTCCTTCAACCGCGACGTACTGAAGGCSCTGTACAGCTTCGC 123

Qy       1667 GCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGG 1713
             |||||||||||||||||||||||||||||||||||||||||||||||
Db        124 GCCCATCTCCATGCACTGCAACAAGTCCTCAGCCGTCCGCTTCCAGG 170


RESULT 22
AAS21338
ID   AAS21338 standard; cDNA; 2150 BP.
XX
AC   AAS21338;
XX
DT   24-OCT-2001  (first entry)
XX
DE   Human cDNA sequence encoding for PRO5780 polypeptide.
XX
KW   Human secretory and transmembrane; PRO; mammalian; cancer; lung;
KW   breast; prostate; cervical; tumour necrosis factor-alpha; TNF-alpha;
KW   cartilage; ear; proliferation; glucose; free fatty acid; skeletal muscle;
KW   adipocyte; A-peptide; factor VIIA; gene therapy; ss.
XX
OS   Homo sapiens.
XX
PN   WO200140466-A2.
XX
PD   07-JUN-2001.
XX
PF   01-DEC-2000; 2000WO-US32678.
XX
PR   01-DEC-1999;   99WO-US28301.
PR   01-DEC-1999;   99WO-US28634.
PR   02-DEC-1999;   99WO-US28551.
PR   02-DEC-1999;   99WO-US28564.
PR   02-DEC-1999;   99WO-US28565.
PR   09-DEC-1999;   99US-0170262.
PR   16-DEC-1999;   99WO-US30095.
PR   20-DEC-1999;   99WO-US30911.
PR   20-DEC-1999;   99WO-US30999.
PR   30-DEC-1999;   99WO-US31243.
PR   06-JAN-2000; 2000WO-US00277.
PR   06-JAN-2000; 2000WO-US00376.
PR   11-FEB-2000; 2000WO-US03565.
PR   18-FEB-2000; 2000WO-US04341.
PR   18-FEB-2000; 2000WO-US04342.
PR   22-FEB-2000; 2000WO-US04414.
PR   24-FEB-2000; 2000WO-US04914.
PR   24-FEB-2000; 2000WO-US05004.
PR   01-MAR-2000; 2000WO-US05601.
PR   20-MAR-2000; 2000WO-US07377.
PR   21-MAR-2000; 2000WO-US07532.
PR   30-MAR-2000; 2000WO-US08439.
PR   17-MAY-2000; 2000WO-US13705.
PR   22-MAY-2000; 2000WO-US14042.
PR   30-MAY-2000; 2000WO-US14941.
PR   02-JUN-2000; 2000WO-US15264.
PR   10-NOV-2000; 2000WO-US30873.
XX
PA   (GETH ) GENENTECH INC.
XX
PI   Baker KP,  Beresini M,  Deforge L,  Desnoyers L,  Filvaroff E,  Gao W;
PI   Gerritsen ME,  Goddard A,  Godowski PJ,  Gurney AL,  Sherwood S;
PI   Smith V,  Stewart TA,  Tumas D,  Watanabe CK,  Wood WI,  Zhang Z;
XX
DR   WPI; 2001-408281/43.
DR   P-PSDB; AAU12266.
XX
PT   Isolated, secretory and transmembrane PRO polypeptide used to detect
PT   other PRO polypeptides, link bioactive molecules to cells expressing
PT   PRO polypeptides, and detect the presence of mammalian tumours e.g.
PT   lung, breast, prostate, cervical  -
XX
PS   Claim 3; Fig 189; 813pp; English.
XX
CC   AAS21244-AAS21518 encode for novel human secretory and transmembrane
CC   PRO polypeptides. The PRO polypeptides are useful to detect other
CC   PRO polypeptides, to link bioactive molecules to cells expressing
CC   PRO polypeptides, to modulate biological activities of cells expressing
```

CC PRO polypeptides, and to detect the presence of mammalian lung, colon, breast, prostate, rectal, cervical or liver tumours by comparing PRO polypeptide expression in a cell sample to that in a control sample. Some of the 275 sequences are also useful to stimulate the release of tumour necrosis factor-alpha (TNF-alpha) from human blood, the proliferation or differentiation of chondrocytes, the proliferation or gene expression in pericyte cells, the release of proteoglycans from cartilage, the proliferation of inner ear utricular supporting cells or of T-lymphocytes, the release of a cytokine from peripheral blood monocytes (PBMCs), or the proliferation of endothelial cells. Some of the PRO polypeptides may modulate glucose or free fatty acid uptake by skeletal muscle cells or by adipocytes; or inhibit binding of A-peptide to factor VIIA. The PRO polypeptides can be used in assays to identify molecules involved in binding interactions. The polynucleotides encoding PRO polypeptides can be used to generate probes, antisense RNA/DNA, transgenic or knock out animals and can be used in gene therapy.
XX
SQ Sequence 2150 BP; 586 A; 496 C; 499 G; 569 T; 0 other;

Query Match 5.4%; Score 146.8; DB 22; Length 2150;
Best Local Similarity 47.3%; Pred. No. 3.2e-22;
Matches 618; Conservative 0; Mismatches 667; Indels 21; Gaps 5;

```
Qy        187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCC 246
Db        119 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 178

Qy        247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
Db        179 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 238

Qy        304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
Db        239 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 298

Qy        364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
Db        299 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 358

Qy        424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
Db        359 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 418

Qy        484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
Db        419 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 478

Qy        544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
Db        479 ---ATGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 532

Qy        604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
Db        533 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 592

Qy        664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
Db        593 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 652

Qy        724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
Db        653 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 712

Qy        784 AAGTCTTCCAGTGCGCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
Db        713 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCT 772

Qy        841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900
Db        773 ATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTA 832

Qy        901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960
```

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Db        833 TTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAG 892

Qy        961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020
Db        893 ATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAA 952

Qy       1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080
Db        953 TAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGG 1012

Qy       1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140
Db        1013 TGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGT 1072

Qy       1141 TCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CCTC 1191
Db        1073 TCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGC 1132

Qy       1192 CCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGTGG 1251
Db        1133 CAAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCA 1192

Qy       1252 TCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACA 1311
Db        1193 GGCTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTTTG 1252

Qy       1312 GCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATG 1371
Db        1253 ACTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATA 1312

Qy       1372 TGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCT 1431
Db        1313 ACCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGAC 1372

Qy       1432 TCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db        1373 TAAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1418
```

RESULT 23
ACA03697
ID ACA03697 standard; cDNA; 2150 BP.
XX
AC ACA03697;
XX
DT 23-MAY-2003 (first entry)
XX
DE cDNA encoding human PRO polypeptide #95.
XX
KW Human; PRO polypeptide; secreted and transmembrane protein;
KW tumour necrosis factor-alpha; TNF-alpha; blood; proliferation;
KW differentiation; chondrocyte; tumour; genetic disorder;
KW cytostatic; gene; ss.
XX
OS Homo sapiens.
XX
PN US2003036180-A1.
XX
PD 20-FEB-2003.
XX
PF 09-MAY-2002; 2002US-0143114.
XX
PR 31-MAR-1997; 97WO-US05230.
PR 12-JUN-1998; 98WO-US12456.
PR 14-JUL-1998; 98WO-US14552.
PR 28-AUG-1998; 98WO-US17888.
PR 10-SEP-1998; 98WO-US18824.
PR 14-SEP-1998; 98WO-US19093.
PR 14-SEP-1998; 98WO-US19094.
PR 14-SEP-1998; 98WO-US19177.
PR 16-SEP-1998; 98WO-US19330.
PR 17-SEP-1998; 98WO-US19437.
PR 07-OCT-1998; 98WO-US21141.

PR 29-OCT-1998; 98WO-US22991.
PR 29-OCT-1998; 98WO-US22992.
PR 20-NOV-1998; 98WO-US24855.
PR 01-DEC-1998; 98WO-US25108.
PR 05-JAN-1999; 99WO-US00106.
PR 08-MAR-1999; 99WO-US05028.
PR 10-MAR-1999; 99WO-US05190.
PR 20-APR-1999; 99WO-US08615.
PR 14-MAY-1999; 99WO-US10733.
PR 02-JUN-1999; 99WO-US12252.
PR 01-SEP-1999; 99WO-US20111.
PR 08-SEP-1999; 99WO-US20594.
PR 13-SEP-1999; 99WO-US20944.
PR 15-SEP-1999; 99WO-US21090.
PR 15-SEP-1999; 99WO-US21547.
PR 05-OCT-1999; 99WO-US23089.
PR 29-NOV-1999; 99WO-US28214.
PR 30-NOV-1999; 99WO-US28313.
PR 30-NOV-1999; 99WO-US28409.
PR 01-DEC-1999; 99WO-US28301.
PR 01-DEC-1999; 99WO-US28634.
PR 02-DEC-1999; 99WO-US28551.
PR 02-DEC-1999; 99WO-US28564.
PR 02-DEC-1999; 99WO-US28565.
PR 16-DEC-1999; 99WO-US30095.
PR 20-DEC-1999; 99WO-US30911.
PR 20-DEC-1999; 99WO-US30999.
PR 22-DEC-1999; 99WO-US30720.
PR 30-DEC-1999; 99WO-US31243.
PR 30-DEC-1999; 99WO-US31274.
PR 05-JAN-2000; 2000WO-US00219.
PR 06-JAN-2000; 2000WO-US00277.
PR 06-JAN-2000; 2000WO-US00376.
PR 11-FEB-2000; 2000WO-US03565.
PR 18-FEB-2000; 2000WO-US04341.
PR 18-FEB-2000; 2000WO-US04342.
PR 22-FEB-2000; 2000WO-US04414.
PR 24-FEB-2000; 2000WO-US04914.
PR 24-FEB-2000; 2000WO-US05004.
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05746.
PR 02-MAR-2000; 2000WO-US05841.
PR 10-MAR-2000; 2000WO-US06319.
PR 15-MAR-2000; 2000WO-US06884.
PR 20-MAR-2000; 2000WO-US07377.
PR 21-MAR-2000; 2000WO-US07532.
PR 30-MAR-2000; 2000WO-US08439.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.
PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 28-JUL-2000; 2000WO-US20710.
PR 11-AUG-2000; 2000WO-US22031.
PR 23-AUG-2000; 2000WO-US23522.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 10-NOV-2000; 2000WO-US30873.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.
PR 28-FEB-2001; 2001WO-US06520.
PR 01-MAR-2001; 2001WO-US06666.
PR 25-MAY-2001; 2001WO-US17092.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 22-JUN-2001; 2001WO-US20116.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 20-DEC-2000; 2000US-0747259.
PR 28-FEB-2001; 2001US-0796498.
PR 09-MAR-2001; 2001US-0802706.
PR 14-MAR-2001; 2001US-0808689.
PR 22-MAR-2001; 2001US-0816744.
PR 05-APR-2001; 2001US-0828366.
PR 10-MAY-2001; 2001US-0854208.
PR 10-MAY-2001; 2001US-0854280.
PR 18-MAY-2001; 2001US-0860216.
PR 25-MAY-2001; 2001US-0866028.
PR 25-MAY-2001; 2001US-0866034.
PR 01-JUN-2001; 2001US-0872035.
PR 05-JUN-2001; 2001US-0874503.
PR 14-JUN-2001; 2001US-0882636.
PR 19-JUN-2001; 2001US-0886342.
PR 21-JUN-2001; 2001US-0887879.
PR 18-JUL-2001; 2001US-0908827.
PR 06-AUG-2001; 2001US-0924419.
PR 09-AUG-2001; 2001US-0927796.
PR 16-AUG-2001; 2001US-0931836.
PR 19-DEC-2001; 2001US-0028072.
XX
PA (GETH) GENENTECH INC.
XX
PI Baker KP, Beresini M, DeForge L, Desnoyers L, Filvaroff E, Gao W;
PI Gerritsen ME, Goddard A, Godowski PJ, Gurney AL, Sherwood S;
PI Smith V, Stewart TA, Tumas D, Watanabe CK, Wood WI, Zhang Z;
XX
DR WPI; 2003-332040/31.
DR P-PSDB; ABU66664.
XX
PT New secreted and transmembrane PRO nucleic acids, useful for gene
PT therapy, in chromosome and gene mapping, as chromosome markers, in
PT tissue typing, and in chromosome identification -
XX
PS Claim 2; Fig 189; 660pp; English.
XX
CC The present invention relates to the isolation of novel human PRO
CC polypeptides, and the polynucleotide sequences encoding them. The
CC PRO polypeptides are secreted and transmembrane proteins. The PRO
CC polypeptides are useful for detecting other PRO polypeptides, for
CC linking bioactive molecules to cells expressing PRO polypeptides,
CC for modulating biological activities of cells expressing PRO
CC polypeptides, and for for identifying agonists or antagonists.
CC The PRO polypeptides are useful for for stimulating the release of
CC tumour necrosis factor (TNF)-alpha from human blood, for stimulating
CC the proliferation or differentiation of chondrocytes, and detecting the
CC presence of tumours. The polynucleotide sequences encoding PRO
CC polypeptides are useful as hybridisation probes, in chromosome and
CC gene mapping, in the generation of antisense RNA and DNA, in the
CC preparation of PRO polypeptides, for generating transgenic animals or
CC knockout animals, for the genetic analysis of individuals with genetic
CC disorders, and in gene therapy. ACA03603-ACA03877 represent cDNAs
CC encoding the human PRO polypeptides of the invention.
CC Note: The sequence data for this patent was obtained in electronic
CC format directly from the USPTO web site at
CC seqdata.uspto.gov/psipsDIDEntry.html.
XX
SQ Sequence 2150 BP; 586 A; 496 C; 499 G; 569 T; 0 other;

Query Match 5.4%; Score 146.8; DB 25; Length 2150;
Best Local Similarity 47.3%; Pred. No. 3.2e-22;
Matches 618; Conservative 0; Mismatches 667; Indels 21; Gaps 5;

```
Qy      187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCC 246
            |||  | ||||  || || |||  ||     |||   | | |  || ||  || |||  |
Db      119 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 178

Qy      247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
            ||   || ||  | ||   |   || |   | | |  ||| ||  |||| |||  | ||
Db      179 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 238

Qy      304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
              |      |    ||||  |   |||    |  |   |    ||  |  || |  |
Db      239 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 298

Qy      364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
              ||| | ||||| || ||||| ||      | |    |   |      |  |  |
Db      299 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 358
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Qy       424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
Db       359 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 418

Qy       484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
Db       419 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 478

Qy       544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
Db       479 ---ATGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 532

Qy       604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
Db       533 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 592

Qy       664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
Db       593 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 652

Qy       724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
Db       653 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 712

Qy       784 AAGTCTTCCAGTGCGCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
Db       713 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCT 772

Qy       841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900
Db       773 ATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTA 832

Qy       901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960
Db       833 TTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAG 892

Qy       961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020
Db       893 ATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAA 952

Qy      1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080
Db       953 TAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGG 1012

Qy      1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140
Db      1013 TGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGT 1072

Qy      1141 TCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CCTC 1191
Db      1073 TCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGC 1132

Qy      1192 CCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGTGG 1251
Db      1133 CAAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCA 1192

Qy      1252 TCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACA 1311
Db      1193 GGCTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTTTG 1252

Qy      1312 GCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATG 1371
Db      1253 ACTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATA 1312

Qy      1372 TGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCT 1431
Db      1313 ACCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGAC 1372

Qy      1432 TCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db      1373 TAAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1418
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RESULT 24
ACA04118
ID   ACA04118 standard; cDNA; 2150 BP.
XX
AC   ACA04118;
XX
DT   27-MAY-2003  (first entry)
XX
DE   Human cDNA encoding a secreted/transmembrane protein, SEQ ID 189.
XX
KW   Human; ss; gene; secreted protein; transmembrane protein; PRO;
KW   inflammatory disease; organ failure; atherosclerosis; cardiac injury;
KW   infertility; birth defects; premature aging; AIDS; biosensor;
KW   acquired immunodeficiency syndrome; cancer; diabetic complication;
KW   bioreactor; tumour.
XX
OS   Homo sapiens.
XX
PN   US2003032155-A1.
XX
PD   13-FEB-2003.
XX
PF   03-MAY-2002; 2002US-0137865.
XX
PR   31-MAR-1997;   97WO-US05230.
PR   12-JUN-1998;   98WO-US12456.
PR   14-JUL-1998;   98WO-US14552.
PR   28-AUG-1998;   98WO-US17888.
PR   10-SEP-1998;   98WO-US18824.
PR   14-SEP-1998;   98WO-US19093.
PR   14-SEP-1998;   98WO-US19094.
PR   14-SEP-1998;   98WO-US19177.
PR   16-SEP-1998;   98WO-US19330.
PR   17-SEP-1998;   98WO-US19437.
PR   07-OCT-1998;   98WO-US21141.
PR   29-OCT-1998;   98WO-US22991.
PR   29-OCT-1998;   98WO-US22992.
PR   20-NOV-1998;   98WO-US24855.
PR   01-DEC-1998;   98WO-US25108.
PR   05-JAN-1999;   99WO-US00106.
PR   08-MAR-1999;   99WO-US05028.
PR   10-MAR-1999;   99WO-US05190.
PR   20-APR-1999;   99WO-US08615.
PR   14-MAY-1999;   99WO-US10733.
PR   02-JUN-1999;   99WO-US12252.
PR   01-SEP-1999;   99WO-US20111.
PR   08-SEP-1999;   99WO-US20594.
PR   13-SEP-1999;   99WO-US20944.
PR   15-SEP-1999;   99WO-US21090.
PR   15-SEP-1999;   99WO-US21547.
PR   05-OCT-1999;   99WO-US23089.
PR   29-NOV-1999;   99WO-US28214.
PR   30-NOV-1999;   99WO-US28313.
PR   30-NOV-1999;   99WO-US28409.
PR   01-DEC-1999;   99WO-US28301.
PR   01-DEC-1999;   99WO-US28634.
PR   02-DEC-1999;   99WO-US28551.
PR   02-DEC-1999;   99WO-US28564.
PR   02-DEC-1999;   99WO-US28565.
PR   16-DEC-1999;   99WO-US30095.
PR   20-DEC-1999;   99WO-US30911.
PR   20-DEC-1999;   99WO-US30999.
PR   22-DEC-1999;   99WO-US30720.
PR   30-DEC-1999;   99WO-US31243.
PR   30-DEC-1999;   99WO-US31274.
PR   05-JAN-2000; 2000WO-US00219.
PR   06-JAN-2000; 2000WO-US00277.
PR   06-JAN-2000; 2000WO-US00376.
PR   11-FEB-2000; 2000WO-US03565.
PR   18-FEB-2000; 2000WO-US04341.
PR   18-FEB-2000; 2000WO-US04342.
PR   22-FEB-2000; 2000WO-US04414.
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PR 24-FEB-2000; 2000WO-US04914.
PR 24-FEB-2000; 2000WO-US05004.
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05746.
PR 02-MAR-2000; 2000WO-US05841.
PR 10-MAR-2000; 2000WO-US06319.
PR 15-MAR-2000; 2000WO-US06884.
PR 20-MAR-2000; 2000WO-US07377.
PR 21-MAR-2000; 2000WO-US07532.
PR 30-MAR-2000; 2000WO-US08439.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.
PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 28-JUL-2000; 2000WO-US20710.
PR 11-AUG-2000; 2000WO-US22031.
PR 23-AUG-2000; 2000WO-US23522.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 10-NOV-2000; 2000WO-US30873.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.
PR 28-FEB-2001; 2001WO-US06520.
PR 01-MAR-2001; 2001WO-US06666.
PR 25-MAY-2001; 2001WO-US17092.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 22-JUN-2001; 2001WO-US20116.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 20-DEC-2000; 2000US-0747259.
PR 28-FEB-2001; 2001US-0796498.
PR 09-MAR-2001; 2001US-0802706.
PR 14-MAR-2001; 2001US-0808689.
PR 22-MAR-2001; 2001US-0816744.
PR 05-APR-2001; 2001US-0828366.
PR 10-MAY-2001; 2001US-0854208.
PR 10-MAY-2001; 2001US-0854280.
PR 18-MAY-2001; 2001US-0860216.
PR 25-MAY-2001; 2001US-0866028.
PR 25-MAY-2001; 2001US-0866034.
PR 01-JUN-2001; 2001US-0872035.
PR 05-JUN-2001; 2001US-0874503.
PR 14-JUN-2001; 2001US-0882636.
PR 19-JUN-2001; 2001US-0886342.
PR 21-JUN-2001; 2001US-0887879.
PR 18-JUL-2001; 2001US-0908827.
PR 06-AUG-2001; 2001US-0924419.
PR 09-AUG-2001; 2001US-0927796.
PR 16-AUG-2001; 2001US-0931836.
PR 19-DEC-2001; 2001US-0028072.
XX
PA (GETH) GENENTECH INC.
XX
PI Baker KP, Beresini M, DeForge L, Desnoyers L, Filvaroff E, Gao W;
PI Gerritsen ME, Goddard A, Godowski PJ, Gurney AL, Sherwood S;
PI Smith V, Stewart TA, Tumas D, Watanabe CK, Wood WI, Zhang Z;
XX
DR WPI; 2003-331925/31.
DR P-PSDB; ABU66940.
XX
PT New secreted and transmembrane nucleic acids and polypeptides,
PT designated as PRO, useful for treating inflammation, organ failure,
PT atherosclerosis, cardiac injury, infertility, birth defects, premature
PT aging, AIDS, or cancer -
XX
PS Claim 2; Fig 189; 659pp; English.
XX
CC The invention relates to an isolated nucleic acid comprising, or which is
CC at least 80% identical to, or the full-length coding sequence of, any of
CC the 275 nucleotide sequences, encoding the corresponding PRO polypeptide
CC (one of 275 secreted or transmembrane proteins). The nucleic acid
CC further comprises the full-length coding sequence of the DNA deposited
CC under American Type Culture Collection (ATCC) accession number in a list
CC given in the specification. Also included are vectors and host
CC cells for producing PRO proteins, PRO fusion proteins, anti-PRO
CC antibodies, PRO extracellular domains and mature sequences, methods
CC of detecting PRO proteins, methods for stimulating the release of
CC TNF-alpha (tumour necrosis factor alpha) from human blood,
CC (and the proliferation of differentiation of chondrocyte cells, the
CC proliferation of, or gene expression in pericyte cells, the release or
CC proteoglycans from cartilage, proliferation of inner ear urticular
CC supporting cells, the proliferation of T-lymphocyte cells, the release
CC of a cytokine from peripheral blood mononuclear cells (PBMC), or the
CC proliferation of endothelial cells), a method for modulating the uptake
CC of glucose or free fatty acid (FFA) by skeletal muscle cells,
CC a method for inhibiting the binding of A-peptide to factor VIIA,
CC or the differentiation of adipocyte cells, a method for detecting the
CC presence of a tumour in a mammal and an oligonucleotide probe derived
CC from any of the nucleotide sequences cited above. The nucleic acids and
CC polypeptides are useful for treating inflammatory diseases, organ
CC failure, atherosclerosis, cardiac injury, infertility, birth defects,
CC premature aging, AIDS (acquired immunodeficiency syndrome), cancer, or
CC diabetic complications. The nucleic acids are useful as hybridisation
CC probes, in chromosome and gene mapping, and in generating antisense RNA
CC or DNA. The polypeptides are useful as pharmaceuticals, diagnostics,
CC biosensors or bioreactors. Both are useful in tissue typing.
CC The present sequence encodes a PRO protein of the invention.
XX
SQ Sequence 2150 BP; 586 A; 496 C; 499 G; 569 T; 0 other;

Query Match 5.4%; Score 146.8; DB 25; Length 2150;
Best Local Similarity 47.3%; Pred. No. 3.2e-22;
Matches 618; Conservative 0; Mismatches 667; Indels 21; Gaps 5;

```
Qy      187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCC 246
            ||| | ||||  || || |||  ||    |||   | | |  || ||  || |||  |
Db      119 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 178

Qy      247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
            ||   || ||  | ||   |  || |   | | |  ||| ||  |||| |||  | ||
Db      179 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 238

Qy      304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
            |    |    ||||  |  |||  |  |   |   ||  |  || |  |  |
Db      239 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 298

Qy      364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
              ||| | ||||| || ||||| ||     | |    |   |       | |  |
Db      299 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 358

Qy      424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
            |   || |  ||      |   || || |||  || ||  |    ||  ||| |||
Db      359 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 418

Qy      484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
            ||||     || |||  |    ||   | ||       |   |  |||   ||
Db      419 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 478

Qy      544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
              | |   | | |||     ||||  ||| | |  |||| ||  | |   |
Db      479 ---ATGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 532

Qy      604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
              | | |  |||  |     | | ||  |   |  ||   |  |||  ||||| |
Db      533 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 592

Qy      664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
            | | || || || || |||||| | ||     || ||||   |  |         ||| |
Db      593 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 652

Qy      724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
            |  | || |||   |||||  |  |     | ||| |||||   || || ||||||||
Db      653 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 712

Qy      784 AAGTCTTCCAGTGCGCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
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Db        713 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCT 772

Qy        841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900

Db        773 ATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTA 832

Qy        901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960

Db        833 TTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAG 892

Qy        961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020

Db        893 ATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAA 952

Qy       1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080

Db        953 TAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGG 1012

Qy       1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140

Db       1013 TGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGT 1072

Qy       1141 TCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CCTC 1191

Db       1073 TCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGC 1132

Qy       1192 CCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGTGG 1251

Db       1133 CAAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCA 1192

Qy       1252 TCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACA 1311

Db       1193 GGCTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTTTG 1252

Qy       1312 GCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATG 1371

Db       1253 ACTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATA 1312

Qy       1372 TGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCT 1431

Db       1313 ACCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGAC 1372

Qy       1432 TCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477

Db       1373 TAAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1418


RESULT 25
ABX89235
ID   ABX89235 standard; cDNA; 2150 BP.
XX
AC   ABX89235;
XX
DT   13-MAY-2003  (first entry)
XX
DE   DNA encoding novel secreted and transmembrane protein PRO5780.
XX
KW   Human; PRO; hypertrophy of neonatal heart; angiogenesis; wound healing;
KW   cardiac insufficiency disorder; cancer; tumour; immune response;
KW   adrenal cortical capillary endothelial growth; c-fos induction;
KW   vascular endothelial growth factor inhibition; VEGF inhibition;
KW   endothelial cell growth inhibitor; T-lymphocytes stimulation;
KW   retinal neurons cell survival; rod photoreceptor cell survival;
KW   retinal disorder; retinitis pigmentosum; kidney disorder;
KW   mammalian kidney mesangial cell proliferation; Berger disease;
KW   dermatitis; herpetiformis; Crohn's disease; chondrocyte proliferation;
KW   chondrocyte redifferentiation; sports injury; arthritis; gene; ss.
XX
OS   Homo sapiens.
XX
PN   US2003017563-A1.
XX
PD   23-JAN-2003.
XX
PF   07-MAY-2002; 2002US-0140808.
XX
PR   31-MAR-1997;   97WO-US05230.
PR   12-JUN-1998;   98WO-US12456.
PR   14-JUL-1998;   98WO-US14552.
PR   28-AUG-1998;   98WO-US17888.
PR   10-SEP-1998;   98WO-US18824.
PR   14-SEP-1998;   98WO-US19093.
PR   14-SEP-1998;   98WO-US19094.
PR   14-SEP-1998;   98WO-US19177.
PR   16-SEP-1998;   98WO-US19330.
PR   17-SEP-1998;   98WO-US19437.
PR   07-OCT-1998;   98WO-US21141.
PR   29-OCT-1998;   98WO-US22991.
PR   29-OCT-1998;   98WO-US22992.
PR   20-NOV-1998;   98WO-US24855.
PR   01-DEC-1998;   98WO-US25108.
PR   05-JAN-1999;   99WO-US00106.
PR   08-MAR-1999;   99WO-US05028.
PR   10-MAR-1999;   99WO-US05190.
PR   20-APR-1999;   99WO-US08615.
PR   14-MAY-1999;   99WO-US10733.
PR   02-JUN-1999;   99WO-US12252.
PR   01-SEP-1999;   99WO-US20111.
PR   08-SEP-1999;   99WO-US20594.
PR   13-SEP-1999;   99WO-US20944.
PR   15-SEP-1999;   99WO-US21090.
PR   15-SEP-1999;   99WO-US21547.
PR   05-OCT-1999;   99WO-US23089.
PR   29-NOV-1999;   99WO-US28214.
PR   30-NOV-1999;   99WO-US28313.
PR   30-NOV-1999;   99WO-US28409.
PR   01-DEC-1999;   99WO-US28301.
PR   01-DEC-1999;   99WO-US28634.
PR   02-DEC-1999;   99WO-US28551.
PR   02-DEC-1999;   99WO-US28564.
PR   02-DEC-1999;   99WO-US28565.
PR   16-DEC-1999;   99WO-US30095.
PR   20-DEC-1999;   99WO-US30911.
PR   20-DEC-1999;   99WO-US30999.
PR   22-DEC-1999;   99WO-US30720.
PR   30-DEC-1999;   99WO-US31243.
PR   30-DEC-1999;   99WO-US31274.
PR   05-JAN-2000; 2000WO-US00219.
PR   06-JAN-2000; 2000WO-US00277.
PR   06-JAN-2000; 2000WO-US00376.
PR   11-FEB-2000; 2000WO-US03565.
PR   18-FEB-2000; 2000WO-US04341.
PR   18-FEB-2000; 2000WO-US04342.
PR   22-FEB-2000; 2000WO-US04414.
PR   24-FEB-2000; 2000WO-US04914.
PR   24-FEB-2000; 2000WO-US05004.
PR   01-MAR-2000; 2000WO-US05601.
PR   02-MAR-2000; 2000WO-US05746.
PR   02-MAR-2000; 2000WO-US05841.
PR   10-MAR-2000; 2000WO-US06319.
PR   15-MAR-2000; 2000WO-US06884.
PR   20-MAR-2000; 2000WO-US07377.
PR   21-MAR-2000; 2000WO-US07532.
PR   30-MAR-2000; 2000WO-US08439.
PR   17-MAY-2000; 2000WO-US13705.
PR   22-MAY-2000; 2000WO-US14042.
PR   30-MAY-2000; 2000WO-US14941.
PR   02-JUN-2000; 2000WO-US15264.
PR   28-JUL-2000; 2000WO-US20710.
PR   11-AUG-2000; 2000WO-US22031.
PR   23-AUG-2000; 2000WO-US23522.
PR   24-AUG-2000; 2000WO-US23328.
PR   08-NOV-2000; 2000WO-US30952.
PR   10-NOV-2000; 2000WO-US30873.
PR   01-DEC-2000; 2000WO-US32678.
```

PR 20-DEC-2000; 2000WO-US34956.
PR 28-FEB-2001; 2001WO-US06520.
PR 01-MAR-2001; 2001WO-US06666.
PR 25-MAY-2001; 2001WO-US17092.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 22-JUN-2001; 2001WO-US20116.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 20-DEC-2000; 2000US-0747259.
PR 28-FEB-2001; 2001US-0796498.
PR 09-MAR-2001; 2001US-0802706.
PR 14-MAR-2001; 2001US-0808689.
PR 22-MAR-2001; 2001US-0816744.
PR 05-APR-2001; 2001US-0828366.
PR 10-MAY-2001; 2001US-0854208.
PR 10-MAY-2001; 2001US-0854280.
PR 18-MAY-2001; 2001US-0860216.
PR 25-MAY-2001; 2001US-0866028.
PR 25-MAY-2001; 2001US-0866034.
PR 01-JUN-2001; 2001US-0872035.
PR 05-JUN-2001; 2001US-0874503.
PR 14-JUN-2001; 2001US-0882636.
PR 19-JUN-2001; 2001US-0886342.
PR 21-JUN-2001; 2001US-0887879.
PR 18-JUL-2001; 2001US-0908827.
PR 06-AUG-2001; 2001US-0924419.
PR 09-AUG-2001; 2001US-0927796.
PR 16-AUG-2001; 2001US-0931836.
PR 19-DEC-2001; 2001US-0028072.
XX
PA (GETH) GENENTECH INC.
XX
PI Baker KP, Beresini M, Deforge L, Desnoyers L, Filvaroff E, Gao W;
PI Gerritsen ME, Goddard A, Godowski PJ, Gurney AL, Sherwood S;
PI Smith V, Stewart TA, Tumas D, Watanabe CK, Wood WI, Zhang Z;
XX
DR WPI; 2003-148238/14.
DR P-PSDB; ABU59745.
XX
PT Novel isolated PRO polypeptides e.g., PRO826, PRO1068, PRO1184, PRO1346
PT and PRO1375, which stimulate proliferation of stimulated T-lymphocytes
PT are therapeutically useful for enhancing immune response and in cancer
PT treatments -
XX
PS Claim 2; Fig 189; 659pp; English.
XX
CC The invention describes an isolated human PRO polypeptide. The PRO
CC polypeptides are useful in detecting PRO polypeptides in a sample, in
CC linking a bioactive molecule to a cell expressing a PRO polypeptide, and
CC in modulating at least one biological activity of a cell expressing a PRO
CC polypeptide. PRO1312 stimulates hypertrophy of neonatal heart and is thus
CC useful for treating cardiac insufficiency disorders. PRO1154 and PRO1186
CC stimulate adrenal cortical capillary endothelial growth, and PRO536,
CC PRO943, PRO828, PRO826, PRO1068 or PRO535, PRO826, PRO819, PRO1126,
CC PRO1360 and PRO1387 induce c-fos in endothelial cells, and are thus
CC useful for treating conditions or disorders where angiogenesis would be
CC beneficial, e.g. wound healing and antagonist of this polypeptide are
CC useful for treating cancerous tumours. PRO812 inhibits vascular
CC endothelial growth factor (VEGF) stimulated proliferation of endothelial
CC cells and is thus useful for inhibiting endothelial cell growth in
CC mammals which would be beneficial in inhibiting tumour growth. PRO826,
CC PRO1068, PRO1184, PRO1346 and PRO1375 stimulate proliferation of
CC stimulated T-lymphocytes and are therapeutically useful for enhancing
CC immune response. PRO828, PRO826, PRO1068 or PRO1132 enhance survival of
CC retinal neurons cells (PRO1132 is also enhances survival/proliferation of
CC rod photoreceptor cells) and therefore are useful for treating retinal
CC disorders of injuries, e.g. retinitis pigmentosum, AMD. PRO819, PRO813
CC and PRO11066 induce proliferation of mammalian kidney mesangial cells,
CC and therefore are useful for treating kidney disorders associated with
CC decreased mesangial cell function such as Berger disease or other
CC nephropathies associated with dermatitis, herpetiformis or Crohn's
CC disease. PRO1310, PRO844, PRO1312, PRO1192 and PRO1387 induce the
CC proliferation and/or redifferentiation of chondrocytes in culture and
CC are thus useful for treating sports injuries, and arthritis. This
CC sequence encodes a novel human PRO protein.
XX
SQ Sequence 2150 BP; 586 A; 496 C; 499 G; 569 T; 0 other;

Query Match 5.4%; Score 146.8; DB 25; Length 2150;
Best Local Similarity 47.3%; Pred. No. 3.2e-22;
Matches 618; Conservative 0; Mismatches 667; Indels 21; Gaps 5;

```
Qy   187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCC 246
Db   119 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 178

Qy   247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
Db   179 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 238

Qy   304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
Db   239 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 298

Qy   364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
Db   299 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 358

Qy   424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
Db   359 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 418

Qy   484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
Db   419 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 478

Qy   544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
Db   479 ---ATGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 532

Qy   604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
Db   533 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 592

Qy   664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
Db   593 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 652

Qy   724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
Db   653 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 712

Qy   784 AAGTCTTCCAGTGCGCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
Db   713 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCT 772

Qy   841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900
Db   773 ATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTA 832

Qy   901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960
Db   833 TTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAG 892

Qy   961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020
Db   893 ATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAA 952

Qy  1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080
Db   953 TAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGG 1012

Qy  1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140
Db  1013 TGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGT 1072
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Qy       1141 TCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CCTC 1191
Db       1073 TCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGC 1132

Qy       1192 CCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGTGG 1251
Db       1133 CAAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCA 1192

Qy       1252 TCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACA 1311
Db       1193 GGCTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTTTG 1252

Qy       1312 GCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATG 1371
Db       1253 ACTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATA 1312

Qy       1372 TGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCT 1431
Db       1313 ACCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGAC 1372

Qy       1432 TCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db       1373 TAAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1418
```

RESULT 26
AAD09953
ID AAD09953 standard; cDNA; 2982 BP.
XX
AC AAD09953;
XX
DT 12-SEP-2001 (first entry)
XX
DE Human drug metabolising enzyme (DME-18) cDNA.
XX
KW Human; drug metabolising enzyme; DME-18; immunosuppressive; gene therapy;
KW cytostatic; autoimmune disorder; inflammatory disorder; atherosclerosis;
KW osteoporosis; eye disorder; hepatic tumour; Addison's disease; cretinism;
KW rheumatoid arthritis; acquired immune deficiency syndrome; AIDS; anaemia;
KW developmental disorder; endocrine disorder; iritis; acromegaly; epilepsy;
KW thyrotoxicosis; pancreatic disorder; diabetes mellitus; obesity; adenoma;
KW gastrointestinal disorder; nodular hyperplasia; conjunctivitis; glaucoma;
KW actinic keratosis; metabolic disorder; dysphagia; anorexia; carcinoma;
KW cell proliferative disorder; ss.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT CDS 33..1874
FT /*tag= a
FT /product= "Human drug metabolising enzyme (DME-18)"
FT sig_peptide 33..86
FT /*tag= b
FT mat_peptide 87..1871
FT /*tag= c
FT /product= "Mature drug metabolising enzyme (DME-18)"
XX
PN WO200151638-A2.
XX
PD 19-JUL-2001.
XX
PF 12-JAN-2001; 2001WO-US01174.
XX
PR 14-JAN-2000; 2000US-0176139.
PR 21-JAN-2000; 2000US-0177443.
PR 28-JAN-2000; 2000US-0178574.
XX
PA (INCY-) INCYTE GENOMICS INC.
XX
PI Yang J, Baughn MR, Burford N, Au-Young J, Lu DAM, Reddy R;
PI Ring HZ, Hillman JL, Yue H, Azimzai Y, Yao MG, Gandhi AR;
PI Nguyen DB, Tang YT, Lal P, Bandman O;
XX
DR WPI; 2001-425874/45.
DR P-PSDB; AAE05187.
XX
PT Drug metabolizing enzymes and encoding polynucleotides, useful for
PT diagnosing, treating and/or preventing autoimmune, inflammatory, cell
PT proliferative, developmental, endocrine, eye, metabolic, and
PT gastrointestinal disorders -
XX
PS Claim 5; Page 168-169; 133pp; English.
XX
CC The present sequence is human drug metabolising enzyme (DME-18) cDNA.
CC Human DME and its nucleic acid molecule are useful for the diagnosis,
CC treatment and prevention of disorders associated with increased or
CC decreased expression of DME. Examples of such disorders include,
CC autoimmune/inflammatory disorder such as acquired immune deficiency
CC syndrome (AIDS), rheumatoid arthritis, osteoporosis; cell proliferative
CC disorder such as actinic keratosis, atherosclerosis; developmental
CC disorder such as epilepsy, anaemia; endocrine disorder such as
CC acromegaly, cretinism, thyrotoxicosis; pancreatic disorder such as
CC diabetes mellitus; eye disorder such as conjunctivitis, glaucoma, iritis;
CC metabolic disorder such as Addison's disease, obesity; gastrointestinal
CC disorder such as anorexia, dysphagia and hepatic tumours including
CC nodular hyperplasia, adenomas and carcinomas. DME DNA is useful for
CC creating 'knockin' humanised animals (pigs) or transgenic animals (mice
CC or rats) to model human disease. DME DNA is also in useful is gene
CC therapy. DME and its immunogenic fragments are useful for screening
CC libraries of compounds in several drug screening assays.
XX
SQ Sequence 2982 BP; 798 A; 657 C; 652 G; 875 T; 0 other;

Query Match 5.4%; Score 146.8; DB 22; Length 2982;
Best Local Similarity 47.3%; Pred. No. 3.5e-22;
Matches 618; Conservative 0; Mismatches 667; Indels 21; Gaps 5;

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Qy        187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCCGGAGGCTCAAGGCTGGCGTCC 246
Db        151 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 210

Qy        247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
Db        211 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 270

Qy        304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
Db        271 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 330

Qy        364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
Db        331 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 390

Qy        424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
Db        391 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 450

Qy        484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
Db        451 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 510

Qy        544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
Db        511 ---ATGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 564

Qy        604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
Db        565 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 624

Qy        664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
Db        625 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 684

Qy        724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
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Db        685 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 744
Qy        784 AAGTCTTCCAGTGCGCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
Db        745 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCT 804
Qy        841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900
Db        805 ATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTA 864
Qy        901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960
Db        865 TTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAG 924
Qy        961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020
Db        925 ATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAA 984
Qy       1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080
Db        985 TAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGG 1044
Qy       1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140
Db       1045 TGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGT 1104
Qy       1141 TCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CCTC 1191
Db       1105 TCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGC 1164
Qy       1192 CCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGTGG 1251
Db       1165 CAAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCA 1224
Qy       1252 TCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACA 1311
Db       1225 GGCTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTTTG 1284
Qy       1312 GCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATG 1371
Db       1285 ACTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATA 1344
Qy       1372 TGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCT 1431
Db       1345 ACCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGAC 1404
Qy       1432 TCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db       1405 TAAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1450
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RESULT 27
AAX77115
ID AAX77115 standard; DNA; 1635 BP.
XX
AC AAX77115;
XX
DT 03-AUG-1999 (first entry)
XX
DE GC6 gene ORF sequence.
XX
KW Cellular senescence; modulator; GC6 gene; senescent gene expression;
KW pGC6; human; ss.
XX
OS Homo sapiens.
XX
PN WO9925878-A2.
XX
PD 27-MAY-1999.
XX
PF 19-NOV-1998; 98WO-US24996.
XX
PR 19-NOV-1997; 97US-0974180.
XX
PA (GERO-) GERON CORP.
XX
PI Funk W;
XX
DR WPI; 1999-347496/29.
DR P-PSDB; AAY21556.
XX
PT New human GC6 gene, useful for identifying agents for treating
PT diseases and/or conditions associated with cell senescence
XX
PS Claim 2; Page 18; 79pp; English.
XX
CC The invention relates to methods for modulating and identifying cellular
CC senescence. Recombinant expression vectors comprising a recombinant
CC polynucleotide corresponding to a polynucleotide in a human GC6 gene, are
CC useful for altering senescent gene expression. The vectors and host cells
CC comprising the vectors are useful for identifying agents that prevent or
CC modulate senescent gene expression. The polynucleotides are useful for
CC producing the protein, pGC6 and nucleic acid derivatives. The proteins
CC encoded are useful for raising antibodies specific for pGC6, which are
CC useful for isolating pGC6, and for detecting cells comprising pGC6 in
CC complex cell mixtures. The characterization of the polynucleotides enable
CC the identification of therapeutic agents that identify and distinguish
CC between young and senescent cells. This enables treatment of aging
CC diseases induced or exacerbated by cellular senescence.
XX
SQ Sequence 1635 BP; 475 A; 355 C; 355 G; 450 T; 0 other;

Query Match 5.2%; Score 141.8; DB 20; Length 1635;
Best Local Similarity 49.6%; Pred. No. 3.7e-21;
Matches 427; Conservative 0; Mismatches 422; Indels 12; Gaps 2;

```
Qy        629 CATGGAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTA 688
Db        354 CTTTGATCTGGTAAATCAGGACGTCCCCATCCCAAACAAAGATACAACATATTGGTGCCA 413
Qy        689 CATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGT 748
Db        414 AATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATCATGTAATAAAGGTTGAGCCAGTGAT 473
Qy        749 CACCAAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGA--- 805
Db        474 ACAGAGAGGCCATGAGAGTCTGGTGCACCACATCCTGCTCTATCAGTGCAGCAACAACTT 533
Qy        806 GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCT 865
Db        534 TAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCTATCACCCCAACATGCCCGATGCATT 593
Qy        866 CAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCC 925
Db        594 CCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTATTGGTGGAGAGGGCTTTTCTTATCC 653
Qy        926 AGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGT 985
Db        654 ACCTCATGTTGGATTATCCCTTGGCACTCCATTAGATCCGCATTATGTGCTCCTAGAAGT 713
Qy        986 TCACTACCACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTA 1045
Db        714 CCATTATGATAATCCCACTTATGAGGAAGGCTTAATAGATAATTCTGGACTGAGGTTATT 773
Qy       1046 CTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACAC 1105
Db        774 TTACACAATGGATATAAGGAAATATGATGCTGGGGTGATTGAGGCTGGCCTCTGGGTGAG 833
Qy       1106 GCCAGTGATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGA 1165
Db        834 CCTCTTCCATACCATCCCTCCAGGGATGCCTGAGTTCCAGTCTGAGGGTCACTGCACTTT 893
Qy       1166 CAAGTGCACCCAGCTGGCACTGCCTCCC---------TCCGGGATCCACATCTTCGCCTC 1216
Db        894 GGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGCCAAGTGGAATTCATGTGTTTGCTGT 953
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Qy       1217 TCAGCTCCACACACACCTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCG 1276
             ||  |||||  | ||||||  ||||  |||    |         |   | ||  | ||
Db        954 TCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCAGGCTGCGTCATTTTCGAAAAGGGAA 1013

Qy       1277 GGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCAT 1336
             |||    | |  |  |    | | ||  || | |     |     | ||||||||| | |
Db       1014 GGAAATGAAATTACTTGCCTATGATGATGATTTTGACTTCAATTTCCAGGAGTTTCAGTA 1073

Qy       1337 GTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAA 1396
               | ||| | |       | ||   || |||||   ||  ||  ||     |||||
Db       1074 TCTAAAGGAAGAACAAACAATCTTACCAGGAGATAACCTAATTACTGAGTGTCGCTACAA 1133

Qy       1397 CACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGT 1456
             |||| ||||  | |     |   ||   ||| ||  |  | | |   || ||||||| |
Db       1134 CACGAAAGATAGAGCTGAGATGACTTGGGGAGGACTAAGCACCAGGAGTGAAATGTGTCT 1193

Qy       1457 CAACTACGTGCACTACTACCC 1477
             |   ||| | |  || |||||
Db       1194 CTCATACCTTCTTTATTACCC 1214
```

RESULT 28
AAX77111
ID AAX77111 standard; DNA; 2178 BP.
XX
AC AAX77111;
XX
DT 03-AUG-1999 (first entry)
XX
DE Restriction fragment GC6 NcoI/XbaI.
XX
KW Cellular senescence; modulator; GC6 gene; senescent gene expression;
KW pGC6; human; ss.
XX
OS Homo sapiens.
XX
PN WO9925878-A2.
XX
PD 27-MAY-1999.
XX
PF 19-NOV-1998; 98WO-US24996.
XX
PR 19-NOV-1997; 97US-0974180.
XX
PA (GERO-) GERON CORP.
XX
PI Funk W;
XX
DR WPI; 1999-347496/29.
XX
PT New human GC6 gène, useful for identifying agents for treating
PT diseases and/or conditions associated with cell senescence
XX
PS Disclosure; Page 14; 79pp; English.
XX
CC The invention relates to methods for modulating and identifying cellular
CC senescence. Recombinant expression vectors comprising a recombinant
CC polynucleotide corresponding to a polynucleotide in a human GC6 gene, are
CC useful for altering senescent gene expression. The vectors and host cells
CC comprising the vectors are useful for identifying agents that prevent or
CC modulate senescent gene expression. The polynucleotides are useful for
CC producing the protein, pGC6 and nucleic acid derivatives. The proteins
CC encoded are useful for raising antibodies specific for pGC6, which are
CC useful for isolating pGC6, and for detecting cells comprising pGC6 in
CC complex cell mixtures. The characterization of the polynucleotides enable
CC the identification of therapeutic agents that identify and distinguish
CC between young and senescent cells. This enables treatment of aging
CC diseases induced or exacerbated by cellular senescence.
XX
SQ Sequence 2178 BP; 596 A; 473 C; 436 G; 672 T; 1 other;

  Query Match   5.2%; Score 141.8; DB 20; Length 2178;
  Best Local Similarity   49.6%; Pred. No. 4e-21;

  Matches 427; Conservative   0; Mismatches 422; Indels   12; Gaps   2;

```
Qy        629 CATGGAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTA 688
              | | ||  |   |  ||   |  |||  ||||| | | | || || || || |||||| |
Db        226 CTTTGATCTGGTAAATCAGGACGTCCCCATCCCAAACAAAGATACAACATATTGGTGCCA 285

Qy        689 CATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGT 748
              ||     || ||||   | |        ||| ||  | || |||   ||||| | |
Db        286 AATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATCATGTAATAAAGGTTGAGCCAGTGAT 345

Qy        749 CACCAAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGA--- 805
              |  ||| ||||   || || ||||||||      |||  ||||||  |  | |
Db        346 ACAGAGAGGCCATGAGAGTCTGGTGCACCACATCCTGCTCTATCAGTGCAGCAACAACTT 405

Qy        806 GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCT 865
              |  |||||||| |   | | | ||      ||| |   |   |  |  |||||     |
Db        406 TAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCTATCACCCCAACATGCCCGATGCATT 465

Qy        866 CAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCC 925
              |  |  |||        ||| |   |||||||| | ||||  |||  ||||  || ||
Db        466 CCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTATTGGTGGAGAGGGCTTTTCTTATCC 525

Qy        926 AGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGT 985
              |    | |  ||  |  || | ||    |||        |    ||| | | ||| |||||
Db        526 ACCTCATGTTGGATTATCCCTTGGCACTCCATTAGATCCGCATTATGTGCTCCTAGAAGT 585

Qy        986 TCACTACCACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTA 1045
              || ||  | || ||          |||||    ||  ||    || ||  |  | || |
Db        586 CCATTATGATAATCCCACTTATGAGGAAGGCTTAATAGATAATTCTGGACTGAGGTTATT 645

Qy       1046 CTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACAC 1105
              ||||||    |  |   |    | || ||| | || |||   || ||    |   |
Db        646 TTACACAATGGATATAAGGAAATATGATGCTGGGGTGATTGAGGCTGGCCTCTGGGTGAG 705

Qy       1106 GCCAGTGATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGA 1165
              |    |      |||| || ||| ||  | | |  |||          ||  |||||||
Db        706 CCTCTTCCATACCATCCCTCCAGGGATGCCTGAGTTCCAGTCTGAGGGTCACTGCACTTT 765

Qy       1166 CAAGTGCACCCAGCTGGCACTGCCTCCC---------TCCGGGATCCACATCTTCGCCTC 1216
              |||||    |  ||| |||    ||           || || ||  | || ||
Db        766 GGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGCCAAGTGGAATTCATGTGTTTGCTGT 825

Qy       1217 TCAGCTCCACACACACCTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCG 1276
              ||  |||||  | ||||||  ||||  |||    |         |   | ||  | ||
Db        826 TCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCAGGCTGCGTCATTTTCGAAAAGGGAA 885

Qy       1277 GGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCAT 1336
              |||    | |  |  |    | | ||  || | |     |     | ||||||||| | |
Db        886 GGAAATGAAATTACTTGCCTATGATGATGATTTTGACTTCAATTTCCAGGAGTTTCAGTA 945

Qy       1337 GTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAA 1396
               | ||| | |       | ||   || |||||   ||  ||  ||     |||||
Db        946 TCTAAAGGAAGAACAAACAATCTTACCAGGAGATAACCTAATTACTGAGTGTCGCTACAA 1005

Qy       1397 CACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGT 1456
              |||| ||||  | |     |   ||   ||| ||  |  | | |   || ||||||| |
Db       1006 CACGAAAGATAGAGCTGAGATGACTTGGGGAGGACTAAGCACCAGGAGTGAAATGTGTCT 1065

Qy       1457 CAACTACGTGCACTACTACCC 1477
              |   ||| | |  || |||||
Db       1066 CTCATACCTTCTTTATTACCC 1086
```

RESULT 29
AAK94314
ID AAK94314 standard; cDNA; 2762 BP.
XX
AC AAK94314;
XX
DT 06-NOV-2001 (first entry)
XX
DE Human full-length cDNA, SEQ ID NO: 2985.
XX

```
KW   Human; full length cDNA; cDNA synthesis; oligo-capping; ss.
XX
OS   Homo sapiens.
XX
PN   EP1130094-A2.
XX
PD   05-SEP-2001.
XX
PF   07-JUL-2000; 2000EP-0114089.
XX
PR   08-JUL-1999;   99JP-0194486.
PR   11-JAN-2000; 2000JP-0118774.
PR   02-MAY-2000; 2000JP-0183765.
XX
PA   (HELI-) HELIX RES INST.
XX
PI   Ota T, Nishikawa T, Isogai T, Hayashi K, Ishii S, Kawai Y;
PI   Wakamatsu A, Sugiyama T, Nagai K, Kojima S, Otsuki T, Koga H;
XX
DR   WPI; 2001-524255/58.
DR   P-PSDB; AAM93393.
XX
PT   830 Primers useful for synthesizing full length cDNA clones and their
PT   use in genetic manipulation -
XX
PS   Claim 8; SEQ ID NO 2985; 1380pp + sequence listing; English.
XX
CC   The invention relates to primers for synthesising full length cDNA
CC   clones. 830 cDNA molecules encoding a human protein have been
CC   isolated and nucleotide sequences of 5'- and 3'-ends of the cDNA
CC   molecules have been determined. Primers for synthesising the full length
CC   cDNA are useful for clarifying the function of the protein encoded by
CC   the cDNA. The full length clones were obtained by construction of full
CC   length enriched cDNA libraries that were synthesised by the oligo-capping
CC   method. The primers enable the production of the full length cDNA easily
CC   without any special methods. The present sequence is a full length
CC   human cDNA of the invention.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in CD-ROM format directly from EPO.
XX
SQ   Sequence 2762 BP; 760 A; 586 C; 569 G; 847 T; 0 other;

  Query Match             5.2%;  Score 141.8;  DB 22;  Length 2762;
  Best Local Similarity   49.6%;  Pred. No. 4.2e-21;
  Matches  427;  Conservative    0;  Mismatches  422;  Indels   12;  Gaps    2;

Qy       629 CATGGAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTA 688
Db       381 CTTTGATCTGGTAAATCAGGACGTCCCCATCCCAAACAAAGATACAACATATTGGTGCCA 440

Qy       689 CATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGT 748
Db       441 AATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATCATGTAATAAAGGTTGAGCCAGTGAT 500

Qy       749 CACCAAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGA--- 805
Db       501 ACAGAGAGGCCATGAGAGTCTGGTGCACCACATCCTGCTCTATCAGTGCAGCAACAACTT 560

Qy       806 GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCT 865
Db       561 TAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCTATCACCCCAACATGCCCGATGCATT 620

Qy       866 CAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCC 925
Db       621 CCTCACCTGTGAAACTGTGATTTTGCCTGGGCTATTGGTGGAGAGGGCTTTTCTTATCC 680

Qy       926 AGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGT 985
Db       681 ACCTCATGTTGGATTATCCCTTGGCACTCCATTAGATCCGCATTATGTGCTCCTAGAAGT 740

Qy       986 TCACTACCACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTA 1045
Db       741 CCATTATGATAATCCCACTTATGAGGAAGGCTTAATAGATAATTCTGGACTGAGGTTATT 800

Qy      1046 CTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACAC 1105
Db       801 TTACACAATGGATATAAGGAAATATGATGCTGGGGTGATTGAGGCTGGCCTCTGGGTGAG 860

Qy      1106 GCCAGTGATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGA 1165
Db       861 CCTCTTCCATACCATCCCTCCAGGGATGCCTGAGTTCCAGTCTGAGGGTCACTGCACTTT 920

Qy      1166 CAAGTGCACCCAGCTGGCACTGCCTCCC---------TCCGGGATCCACATCTTCGCCTC 1216
Db       921 GGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGCCAAGTGGAATTCATGTGTTTGCTGT 980

Qy      1217 TCAGCTCCACACACACCTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCG 1276
Db       981 TCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCAGGCTGCGTCATTTTCGAAAAGGGAA 1040

Qy      1277 GGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCAT 1336
Db       1041 GGAAATGAAATTACTTGCCTATGATGATGATTTTGACTTCAATTTCCAGGAGTTTCAGTA 1100

Qy      1337 GTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAA 1396
Db       1101 TCTAAAGGAAGAACAAACAATCTTACCAGGAGATAACCTAATTACTGAGTGTCGCTACAA 1160

Qy      1397 CACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGT 1456
Db       1161 CACGAAAGATAGAGCTGAGATGACTTGGGGAGGACTAAGCACCAGGAGTGAAATGTGTCT 1220

Qy      1457 CAACTACGTGCACTACTACCC 1477
Db       1221 CTCATACCTTCTTTATTACCC 1241


RESULT 30
AAX77114
ID   AAX77114 standard; DNA; 2970 BP.
XX
AC   AAX77114;
XX
DT   03-AUG-1999  (first entry)
XX
DE   DNA sequence of GC6 gene.
XX
KW   Cellular senescence; modulator; GC6 gene; senescent gene expression;
KW   pGC6; human; ss.
XX
OS   Homo sapiens.
XX
PN   WO9925878-A2.
XX
PD   27-MAY-1999.
XX
PF   19-NOV-1998;   98WO-US24996.
XX
PR   19-NOV-1997;   97US-0974180.
XX
PA   (GERO-) GERON CORP.
XX
PI   Funk W;
XX
DR   WPI; 1999-347496/29.
DR   P-PSDB; AAY21556.
XX
PT   New human GC6 gene, useful for identifying agents for treating
PT   diseases and/or conditions associated with cell senescence
XX
PS   Claim 1; Page 15-17; 79pp; English.
XX
CC   The invention relates to methods for modulating and identifying cellular
CC   senescence. Recombinant expression vectors comprising a recombinant
CC   polynucleotide corresponding to a polynucleotide in a human GC6 gene, are
CC   useful for altering senescent gene expression. The vectors and host cells
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CC   comprising the vectors are useful for identifying agents that prevent or
CC   modulate senescent gene expression. The polynucleotides are useful for
CC   producing the protein, pGC6 and nucleic acid derivatives. The proteins
CC   encoded are useful for raising antibodies specific for pGC6, which are
CC   useful for isolating pGC6, and for detecting cells comprising pGC6 in
CC   complex cell mixtures. The characterization of the polynucleotides enable
CC   the identification of therapeutic agents that identify and distinguish
CC   between young and senescent cells. This enables treatment of aging
CC   diseases induced or exacerbated by cellular senescence.
XX
SQ   Sequence 2970 BP; 829 A; 623 C; 586 G; 931 T; 1 other;

  Query Match             5.2%;  Score 141.8;  DB 20;  Length 2970;
  Best Local Similarity   49.6%;  Pred. No. 4.3e-21;
  Matches  427;  Conservative    0;  Mismatches  422;  Indels   12;  Gaps    2;

Qy       629 CATGGAGGTCCAAGCTCCCAATATCCAGATCCCCAGCCAGGAGACCACGTACTGGTGCTA 688
Db       584 CTTTGATCTGGTAAATCAGGACGTCCCCATCCCAAACAAAGATACAACATATTGGTGCCA 643

Qy       689 CATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACCACATTATCAAGTACGAGCCCATCGT 748
Db       644 AATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATCATGTAATAAAGGTTGAGCCAGTGAT 703

Qy       749 CACCAAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGCGCCCCCGA--- 805
Db       704 ACAGAGAGGCCATGAGAGTCTGGTGCACCACATCCTGCTCTATCAGTGCAGCAACAACTT 763

Qy       806 GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAACCCGACCGCCT 865
Db       764 TAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCTATCACCCCAACATGCCCGATGCATT 823

Qy       866 CAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCC 925
Db       824 CCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTATTGGTGGAGAGGGCTTTTCTTATCC 883

Qy       926 AGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGT 985
Db       884 ACCTCATGTTGGATTATCCCTTGGCACTCCATTAGATCCGCATTATGTGCTCCTAGAAGT 943

Qy       986 TCACTACCACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTA 1045
Db       944 CCATTATGATAATCCCACTTATGAGGAAGGCTTAATAGATAATTCTGGACTGAGGTTATT 1003

Qy      1046 CTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACAC 1105
Db      1004 TTACACAATGGATATAAGGAAATATGATGCTGGGGTGATTGAGGCTGGCCTCTGGGTGAG 1063

Qy      1106 GCCAGTGATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGA 1165
Db      1064 CCTCTTCCATACCATCCCTCCAGGGATGCCTGAGTTCCAGTCTGAGGGTCACTGCACTTT 1123

Qy      1166 CAAGTGCACCCAGCTGGCACTGCCTCCC---------TCCGGGATCCACATCTTCGCCTC 1216
Db      1124 GGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGCCAAGTGGAATTCATGTGTTTGCTGT 1183

Qy      1217 TCAGCTCCACACACACCTGACTGGGAGAAAGGTGGTCACAGTGCTGGTCCGGGACGGCCG 1276
Db      1184 TCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCAGGCTGCGTCATTTTCGAAAAGGGAA 1243

Qy      1277 GGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACTTCCAGGAGATCCGCAT 1336
Db      1244 GGAAATGAAATTACTTGCCTATGATGATGATTTTGACTTCAATTTCCAGGAGTTTCAGTA 1303

Qy      1337 GTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAA 1396
Db      1304 TCTAAAGGAAGAACAAACAATCTTACCAGGAGATAACCTAATTACTGAGTGTCGCTACAA 1363

Qy      1397 CACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTCGGGATCCTGGAGGAGATGTGTGT 1456
Db      1364 CACGAAAGATAGAGCTGAGATGACTTGGGGAGGACTAAGCACCAGGAGTGAAATGTGTCT 1423

Qy      1457 CAACTACGTGCACTACTACCC 1477
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Db      1424 CTCATACCTTCTTTATTACCC 1444


RESULT 31
AAA26369
ID   AAA26369 standard; cDNA; 2184 BP.
XX
AC   AAA26369;
XX
DT   29-JUN-2000  (first entry)
XX
DE   Human secreted protein gene 24 SEQ ID NO:34.
XX
KW   Human; secreted protein; diagnosis; cytostatic; immunosuppressive;
KW   antiHIV; antiinflammatory; nootropic; neuroprotective; antiallergic;
KW   osteopathic; antiarthritic; antibacterial; antidiabetic; antiasthma;
KW   antipsoriatic; cardiant; gene therapy; cancer; neurological disorder;
KW   immune disease; inflammation; blood disorder; tumour; ss.
XX
OS   Homo sapiens.
XX
PN   WO200006698-A1.
XX
PD   10-FEB-2000.
XX
PF   29-JUL-1999;   99WO-US17130.
XX
PR   30-JUL-1998;   98US-0094657.
PR   05-AUG-1998;   98US-0095486.
PR   06-AUG-1998;   98US-0095454.
PR   06-AUG-1998;   98US-0095455.
PR   12-AUG-1998;   98US-0096319.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Komatsoulis GA,  Rosen CA,  Ruben SM,  Duan R,  Moore PA,  Shi Y;
PI   Lafleur D,  Wei Y,  Ni J,  Florence KA,  Young PE,  Brewer LA;
PI   Soppet DR,  Endress GA,  Ebner R,  Olsen HS,  Mucenski M;
XX
DR   WPI; 2000-195282/17.
DR   P-PSDB; AAY91474.
XX
PT   New isolated human genes and the secreted polypeptides they encode,
PT   useful for diagnosis and treatment of e.g. cancers, neurological
PT   disorders, immune diseases, inflammation or blood disorders  -
XX
PS   Claim 1; Page 388-389; 634pp; English.
XX
CC   The polynucleotide sequences given in AAA26346 to AAA26458 encode the
CC   human secreted proteins given in AAY91451 to AAY91691. The human secreted
CC   proteins can have activities based on the tissues and cells they are
CC   expressed in. Examples of the activities are: cytostatic;
CC   immunosuppressive; antiHIV; antiinflammatory; nootropic; neuroprotective;
CC   antiallergic; osteopathic; antiarthritic; antibacterial; antidiabetic;
CC   antiasthma; antipsoriatic; and cardiant. The polynucleotides and their
CC   corresponding secreted proteins are useful for preventing, treating or
CC   ameliorating medical conditions, e.g. by protein or gene therapy. Also
CC   pathological conditions can be diagnosed by determining the amount of the
CC   proteins in a sample or by determining the presence of mutations in the
CC   polynucleotides. Specific uses are described for each of the
CC   polynucleotides, based on which tissues they are most highly expressed
CC   in, and include developing products for the diagnosis or treatment of
CC   cancer, tumours, neurodegenerative disorders, developmental abnormalities
CC   and foetal deficiencies, blood disorders, diseases of the immune system,
CC   autoimmune diseases, hepatic and renal disease, inflammation,
CC   allergies, Alzheimer's and behavioural disorders, schizophrenia,
CC   osteoporosis, arthritis, infections, AIDS, spinal cord injuries,
CC   transplant rejection, diabetes, asthma, sepsis, acne, psoriasis,
CC   cardiovascular disorders, reproductive disorders, gastrointestinal
CC   disorders, respiratory disorders and metabolic disorders. The proteins
CC   or polynucleotides can also be used as food additives or preservatives.
CC   The proteins are also useful for identifying their binding partners.
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CC   AAA26337 to AAA26345 and AAY91450 are sequences used in the
CC   exemplification of the present invention.
XX
SQ   Sequence 2184 BP; 599 A; 509 C; 506 G; 570 T; 0 other;

  Query Match             5.2%;  Score 140.6;  DB 21;  Length 2184;
  Best Local Similarity   47.5%;  Pred. No. 7.2e-21;
  Matches  620;  Conservative    0;  Mismatches  664;  Indels   21;  Gaps    6;

Qy        187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCC 246
Db        137 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 196

Qy        247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
Db        197 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 256

Qy        304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
Db        257 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 316

Qy        364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
Db        317 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 376

Qy        424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
Db        377 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 436

Qy        484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
Db        437 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 496

Qy        544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
Db        497 ---ATGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 550

Qy        604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
Db        551 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 610

Qy        664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
Db        611 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 670

Qy        724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
Db        671 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 730

Qy        784 AAGTCTTCCAGTGCGCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCG 840
Db        731 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCT 790

Qy        841 ACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCC 900
Db        791 ATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTA 850

Qy        901 TGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGT 960
Db        851 TTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAG 910

Qy        961 CCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAA 1020
Db        911 ATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAA 970

Qy       1021 ACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGA 1080
Db        971 TAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGG 1030

Qy       1081 TCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCT 1140
Db       1031 TGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGT 1090

Qy       1141 TCATCCTCACTGGCTACTGCACGGACAAGTGC--------ACCCAGCTGGCACTGCCTCC 1192
Db       1091 TCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGCTCTGGAAGCCGAAAAGCC 1150

Qy       1193 CTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACCTGACTGGGAGAAAGGTGGT 1252
Db       1151 AAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGCATCAGG 1210

Qy       1253 CACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACAG 1312
Db       1211 CTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTG-CCTATGATGATGATTTTGA 1269

Qy       1313 CCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGT 1372
Db       1270 CTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATAA 1329

Qy       1373 GCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTT 1432
Db       1330 CCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGACT 1389

Qy       1433 CGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db       1390 AAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1434


RESULT 32
AAA26451
ID   AAA26451 standard; cDNA; 2189 BP.
XX
AC   AAA26451;
XX
DT   29-JUN-2000  (first entry)
XX
DE   Human secreted protein gene 24 SEQ ID NO:116.
XX
KW   Human; secreted protein; diagnosis; cytostatic; immunosuppressive;
KW   antiHIV; antiinflammatory; nootropic; neuroprotective; antiallergic;
KW   osteopathic; antiarthritic; antibacterial; antidiabetic; antiasthma;
KW   antipsoriatic; cardiant; gene therapy; cancer; neurological disorder;
KW   immune disease; inflammation; blood disorder; tumour; ss.
XX
OS   Homo sapiens.
XX
PN   WO200006698-A1.
XX
PD   10-FEB-2000.
XX
PF   29-JUL-1999;   99WO-US17130.
XX
PR   30-JUL-1998;   98US-0094657.
PR   05-AUG-1998;   98US-0095486.
PR   06-AUG-1998;   98US-0095454.
PR   06-AUG-1998;   98US-0095455.
PR   12-AUG-1998;   98US-0096319.
XX
PA   (HUMA-) HUMAN GENOME SCI INC.
XX
PI   Komatsoulis GA,  Rosen CA,  Ruben SM,  Duan R,  Moore PA,  Shi Y;
PI   Lafleur D,  Wei Y,  Ni J,  Florence KA,  Young PE,  Brewer LA;
PI   Soppet DR,  Endress GA,  Ebner R,  Olsen HS,  Mucenski M;
XX
DR   WPI; 2000-195282/17.
DR   P-PSDB; AAY91556.
XX
PT   New isolated human genes and the secreted polypeptides they encode,
PT   useful for diagnosis and treatment of e.g. cancers, neurological
PT   disorders, immune diseases, inflammation or blood disorders  -
XX
PS   Claim 1; Page 445-446; 634pp; English.
XX
CC   The polynucleotide sequences given in AAA26346 to AAA26458 encode the
CC   human secreted proteins given in AAY91451 to AAY91691. The human secreted
CC   proteins can have activities based on the tissues and cells they are
```

```
CC   expressed in. Examples of the activities are: cytostatic;
CC   immunosuppressive; antiHIV; antiinflammatory; nootropic; neuroprotective;
CC   antiallergic; osteopathic; antiarthritic; antibacterial; antidiabetic;
CC   antiasthma; antipsoriatic; and cardiant. The polynucleotides and their
CC   corresponding secreted proteins are useful for preventing, treating or
CC   ameliorating medical conditions, e.g. by protein or gene therapy. Also
CC   pathological conditions can be diagnosed by determining the amount of the
CC   proteins in a sample or by determining the presence of mutations in the
CC   polynucleotides. Specific uses are described for each of the
CC   polynucleotides, based on which tissues they are most highly expressed
CC   in, and include developing products for the diagnosis or treatment of
CC   cancer, tumours, neurodegenerative disorders, developmental abnormalities
CC   and foetal deficiencies, blood disorders, diseases of the immune system,
CC   autoimmune diseases, hepatic and renal disease, inflammation,
CC   allergies, Alzheimer's and behavioural disorders, schizophrenia,
CC   osteoporosis, arthritis, infections, AIDS, spinal cord injuries,
CC   transplant rejection, diabetes, asthma, sepsis, acne, psoriasis,
CC   cardiovascular disorders, reproductive disorders, gastrointestinal
CC   disorders, respiratory disorders and metabolic disorders. The proteins
CC   or polynucleotides can also be used as food additives or preservatives.
CC   The proteins are also useful for identifying their binding partners.
CC   AAA26337 to AAA26345 and AAY91450 are sequences used in the
CC   exemplification of the present invention.
XX
SQ   Sequence 2189 BP; 602 A; 505 C; 509 G; 573 T; 0 other;

  Query Match             5.1%;  Score 138.4;  DB 21;  Length 2189;
  Best Local Similarity   46.9%;  Pred. No. 2.2e-20;
  Matches  614;  Conservative    0;  Mismatches  671;  Indels   23;  Gaps    5;

Qy        187 GCTACACCCAGGAGGCCATCCATTTCCAGCTCCTGGTGCGGAGGCTCAAGGCTGGCGTCC 246
Db        144 GCTGGAGCCAGCGGGGCAGCCAGATCGCCTTCCGCCTCCAGGTGCGCACTGCAGGCTACG 203

Qy        247 TG---TTTGGGATGTCCGACCGTGGCGAGCTTGAGAACGCAGATCTCGTGGTGCTCTGGA 303
Db        204 TGGGCTTCGGCTTCTCGCCCACCGGGGCCATGGCGTCCGCCGACATCGTCGTGGGCGGGG 263

Qy        304 CCGATGGGGACACTGCCTATTTTGCGGACGCCTGGAGTGACCAGAAGGGGCAGATCCACC 363
Db        264 TGGCCCACGGGCGGCCCTACCTCCAGGATTATTTTACAAATGCAAATAGAGAGTTGAAAA 323

Qy        364 TGGATCCCCAGCAGGACTACCAGCTGCTGCAGGTGCAGAGGACCCCAGAAGGCCTGACCC 423
Db        324 AAGATGCTCAGCAAGATTACCATCTAGAATATGCCATGGAAAATAGCACACACACAATAA 383

Qy        424 TGCTTTTCAAGAGGCCCTTTGGCACCTGCGACCCCAAGGATTACCTCATTGAAGACGGCA 483
Db        384 TTGAATTTACCAGAGAGCTGCATACATGTGACATAAATGACAAGAGTATAACGGATAGCA 443

Qy        484 CTGTCCACTTGGTCTACGGGATCCTGGAGGAGCCGTTCCGGTCACTGGAGGCCATCAACG 543
Db        444 CTGTGAGAGTGATCTGGGCCTACCACCATGAAGATGCAGGAGAAGCTGGTCCCAAGTACC 503

Qy        544 GCTCGGGCCTGCAGATGGGGCTGCAGAGGGTGCAGCTCCTGAAGCCCAATATCCCCGAAC 603
Db        504 A---TGACTCCAATAGGGGCACCAAGAGTTTGCGGTTATTGAATCCTGAGAAAAC---TA 557

Qy        604 CGGAGTTGCCCTCAGACGCGTGCACCATGGAGGTCCAAGCTCCCAATATCCAGATCCCCA 663
Db        558 GTGTGCTATCTACAGCCTTACCATACTTTGATCTGGTAAATCAGGACGTCCCCATCCCAA 617

Qy        664 GCCAGGAGACCACGTACTGGTGCTACATTAAGGAGCTTCCAAAGGGCTTCTCTCGGCACC 723
Db        618 ACAAAGATACAACATATTGGTGCCAAATGTTTAAGATTCCTGTGTTCCAAGAAAAGCATC 677

Qy        724 ACATTATCAAGTACGAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGG 783
Db        678 ATGTAATAAAGGTTGAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCC 737

Qy        784 AAGTCTTCCAGTGCGCCCCCGAGATGGACAGCGTCCCCCACTTCAGCGGGCC-----CTG 838
Db        738 TGCTCTATCAGTGCAGCAACAACTTTAACGACAGCGTTCCTGGAATCCGGGCACGAATTG 797

Qy        839 CGACTCCAAGATGAAACCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGC 898
Db        798 CTATCACCCCAACATGCCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGC 857

Qy        899 CCTGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGG 958
Db        858 TATTGGTGGAGAGGGCTTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATT 917

Qy        959 GTCCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACG 1018
Db        918 AGATCCGCATTATGTGCTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTT 977

Qy       1019 AAACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGG 1078
Db        978 AATAGATAATTCTGGACTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGG 1037

Qy       1079 GATCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGC 1138
Db       1038 GGTGATTGAGGCTGGCCTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGA 1097

Qy       1139 CTTCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CC 1189
Db       1098 GTTCCAGTCTGAGGGTCACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAA 1157

Qy       1190 TCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGT 1249
Db       1158 GCCAAGTGGAATTCATGTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCAT 1217

Qy       1250 GGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTA 1309
Db       1218 CAGGCTGCGTCATTTTCGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTT 1277

Qy       1310 CAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGA 1369
Db       1278 TGACTTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGA 1337

Qy       1370 TGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGG 1429
Db       1338 TAACCTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGG 1397

Qy       1430 CTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db       1398 ACTAAGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1445


RESULT 33
AAI59575
ID   AAI59575 standard; cDNA; 1233 BP.
XX
AC   AAI59575;
XX
DT   22-OCT-2001  (first entry)
XX
DE   Human polynucleotide SEQ ID NO 1778.
XX
KW   Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW   peripheral nervous system; neuropathy; central nervous system; CNS;
KW   Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic;
KW   amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW   chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW   leukaemia; ss.
XX
OS   Homo sapiens.
XX
PN   WO200153312-A1.
XX
PD   26-JUL-2001.
XX
PF   26-DEC-2000; 2000WO-US34263.
XX
PR   21-JAN-2000; 2000US-0488725.
PR   25-APR-2000; 2000US-0552317.
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PR   09-JUL-2000; 2000US-0598042.
PR   19-JUL-2000; 2000US-0620312.
PR   03-AUG-2000; 2000US-0653450.
PR   14-SEP-2000; 2000US-0662191.
PR   19-OCT-2000; 2000US-0693036.
PR   29-NOV-2000; 2000US-0727344.
XX
PA   (HYSE-) HYSEQ INC.
XX
PI   Tang YT,  Liu C,  Asundi V,  Chen R,  Ma Y,  Qian XB,  Ren F,  Wang D;
PI   Wang J,  Wang Z,  Wehrman T,  Xu C,  Xue AJ,  Yang Y,  Zhang J;
PI   Zhao QA,  Zhou P,  Goodrich R,  Drmanac RT;
XX
DR   WPI; 2001-442253/47.
DR   P-PSDB; AAM40419.
XX
PT   Novel nucleic acids and polypeptides, useful for treating disorders
PT   such as central nervous system injuries -
XX
PS   Claim 1; SEQ ID NO 1778; 10078pp; English.
XX
CC   The invention relates to human nucleic acids (AAI57798-AAI61369) and
CC   the encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC   immunosuppressant and cytostatic activity. The polynucleotides are useful
CC   in gene therapy. A composition containing a polypeptide or polynucleotide
CC   of the invention may be used to treat diseases of the peripheral nervous
CC   system, such as peripheral nervous injuries, peripheral neuropathy and
CC   localised neuropathies and central nervous system diseases, such as
CC   Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC   lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC   utilisation of the activities such as: Immune system suppression,
CC   Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC   and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC   assays for receptor activity, arthritis and inflammation, leukaemias and
CC   C.N.S disorders.
CC   Note: The sequence data for this patent did not form part of the printed
CC   specification.
XX
SQ   Sequence 1233 BP; 333 A; 274 C; 279 G; 347 T; 0 other;

  Query Match             4.3%;  Score 117.6;  DB 22;  Length 1233;
  Best Local Similarity   49.3%;  Pred. No. 6.3e-16;
  Matches  371;  Conservative    0;  Mismatches  369;  Indels   12;  Gaps    2;

Qy        738 GAGCCCATCGTCACCAAGGGCAATGAGGCCCTTGTCCACCACATGGAAGTCTTCCAGTGC 797
              |||||  |  |     | ||| |||||   || || ||||||||      |||  ||||||
Db          4 GAGCCAGTGATACAGAGAGGCCATGAGAGTCTGGTGCACCACATCCTGCTCTATCAGTGC 63

Qy        798 GCCCCCGA---GATGGACAGCGTCCCCCACTTCAGCGGGCCCTGCGACTCCAAGATGAAA 854
              |   | |     |  |||||||| |   | | | ||       ||| |    |   | |
Db         64 AGCAACAACTTTAACGACAGCGTTCTGGAGTCCGGCCACGAGTGCTATCACCCCAACATG 123

Qy        855 CCCGACCGCCTCAACTACTGCCGCCACGTGCTGGCCGCCTGGGCCCTGGGTGCCAAGGCA 914
              |||||     ||  |  |||        ||| |    ||||||||  | ||||   |||
Db        124 CCCGATGCATTCCTCACCTGTGAAACTGTGATTTTTGCCTGGGCTATTGGTGGAGAGGGC 183

Qy        915 TTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGATATCTC 974
              ||||  || |||    | |  ||  |  || | ||  ||||       |    |||  |
Db        184 TTTTCTTATCCACCTCATGTTGGATTATCCCTTGGCACTCCATTAGATCCGCATTATGTG 243

Qy        975 CGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGGACGAAACGACTCCTCAGGC 1034
              | ||| ||||| || ||  | || ||             |||||   ||  ||    || ||
Db        244 CTCCTAGAAGTCCATTATGATAATCCCACTTATGAGGAAGGCTTAATAGATAATTCTGGA 303

Qy       1035 ATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGATCATGGAGCTGGGA 1094
              |  | || |  ||||||    |  |  ||    |  | || ||| | || |||    ||
Db        304 CTGAGGTTATTTTACACAATGGATATAAGGAAATATGATGCTGGGGTGATTGAGGCTGGC 363

Qy       1095 CTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCTTCATCCTCACTGGC 1154
              ||   |  |  |   |     |||| || ||| ||  | | |  |||          ||
Db        364 CTCTGGGTGAGCCTCTTCCATACCATCCCTCCAGGGATGCCTGAGTTCCAGTCTGAGGGT 423

Qy       1155 TACTGCACGGACAAGTGCACCCAGCTGGCACTG---------CCTCCCTCCGGGATCCAC 1205
                |||||||     |||||    |  ||| |||              ||    || || ||
Db        424 CACTGCACTTTGGAGTGCCTGGAAGAGGCTCTGGAAGCCGAAAAGCCAAGTGGAATTCAT 483

Qy       1206 ATCTTCGCCTCTCAGCTCCACACACCTGACTGGGAGAAAGGTGGTCACAGTGCTGGTC 1265
              | || ||   ||  |||||  | ||||| |||| |||     |             |
Db        484 GTGTTTGCTGTTCTTCTCCATGCTCACCTGGCTGGCAGAGGCATCAGGCTGCGTCATTT 543

Qy       1266 CGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACTTCCAG 1325
              ||  | ||   |||   | |  |  |   | | ||  || | |    |    | ||||||
Db        544 CGAAAAGGGAAGGAAATGAAATTACTTGCCTATGATGATGATTTTGACTTCAATTTCCAG 603

Qy       1326 GAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTGCTCATCACCTCC 1385
              |||  | |       | ||| | |     |   ||   || ||||||   || || ||
Db        604 GAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATAACCTAATTACTGAG 663

Qy       1386 TGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTCGGGATCCTGGAG 1445
              ||     ||||||||| |||| | |    |   ||   ||| ||  |  | | | |
Db        664 TGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGACTAAGCACCAGGAGT 723

Qy       1446 GAGATGTGTGTCAACTACGTGCACTACTACCC 1477
              || |||||| ||   ||| | |  || |||||
Db        724 GAAATGTGTCTCTCATACCTTCTTTATTACCC 755


RESULT 34
ABL02836
ID   ABL02836 standard; cDNA; 29263 BP.
XX
AC   ABL02836;
XX
DT   26-MAR-2002  (first entry)
XX
DE   Drosophila melanogaster expressed polynucleotide SEQ ID NO 2990.
XX
KW   Drosophila; developmental biology; cell signalling; insecticide;
KW   pharmaceutical; gene; ss.
XX
OS   Drosophila melanogaster.
XX
PN   WO200171042-A2.
XX
PD   27-SEP-2001.
XX
PF   23-MAR-2001; 2001WO-US09231.
XX
PR   23-MAR-2000; 2000US-191637P.
PR   11-JUL-2000; 2000US-0614150.
XX
PA   (PEKE ) PE CORP NY.
XX
PI   Venter JC,  Adams M,  Li PWD,  Myers EW;
XX
DR   WPI; 2001-656860/75.
DR   P-PSDB; ABB58733.
XX
PT   New isolated nucleic acid detection reagent for detecting 1000 or more
PT   genes from Drosophila and for elucidating cell signalling and cell-cell
PT   interactions -
XX
PS   Claim 1; SEQ ID NO 2990; 21pp + Sequence Listing; English.
XX
CC   The invention relates to an isolated nucleic acid detection reagent
CC   capable of detecting 1000 or more genes from Drosophila. The invention is
CC   useful in developmental biology and in elucidating cell signalling and
CC   cell-cell interactions in higher eukaryotes for the development of
CC   insecticides, therapeutics and pharmaceutical drugs. The invention
CC   discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA
CC   sequences (ABL01840-ABL16175) and the encoded proteins
CC   (ABB57737-ABB72072).
CC   The sequence data for this patent did not form part of the printed
CC   specification, but was obtained in electronic format directly from WIPO
CC   at ftp.wipo.int/pub/published_pct_sequences.
XX
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SQ   Sequence 29263 BP; 8278 A; 6037 C; 6053 G; 8895 T; 0 other;

 Query Match             4.1%;  Score 113;  DB 23;  Length 29263;
  Best Local Similarity   58.0%;  Pred. No. 1.3e-14;
  Matches  200;  Conservative    0;  Mismatches  145;  Indels    0;  Gaps    0;

Qy       1023 GACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGCGCTTCAACGCGGGGATC 1082
             ||| ||| ||| | ||| |  |     |    |  ||||| |  |   |||| |   |
Db      25413 GACAACTCCGGCTTTCGCATCAAGATGTCGAAGACACTGCGTCAGTATGACGCCGCCGTT 25472

Qy       1083 ATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCACCACGGGAGACCGCCTTC 1142
             ||||| ||||| |||| ||||||       ||||||||||| ||   |  | |||||  |||
Db      25473 ATGGAACTGGGTCTGGAGTACACCGACAAAATGGCCATTCCGCCTGGCCAAACCGCTTTC 25532

Qy       1143 ATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCACTGCCTCCCTCCGGGATC 1202
                || |  ||||| ||    ||   | |||||  |     || |||||  |  | || |||
Db      25533 CCGCTGAGCGGCTATTGTGTGGCGGACTGCACACGAGCCGCTCTGCCGGCGACGGGCATC 25592

Qy       1203 CACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAAAGGTGGTCACAGTGCTG 1262
               |||||| | ||||||||| || || || |||  |||        ||  | ||   ||
Db      25593 ATCATCTTTGGCTCTCAGCTGCATACGCATCTGCGTGGCGTTCGCGTCCTAACCCGGCAC 25652

Qy       1263 GTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATCACTACAGCCCTCACTTC 1322
               | || | ||  | ||||  |       |||||||  ||  |  |||||     |||||||
Db      25653 TTTCGCGGCGAACAGGAGCTGCGCGAGGTGAACCGCGATGACTACTACTCGAATCACTTC 25712

Qy       1323 CAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGA 1367
              |||||||| ||||   || |  |       |   ||||  || | |
Db      25713 CAGGAGATGCGCACCCTGCACTACAAGCCGCGTGTCCTGCCCGTA 25757


RESULT 35
AAC70713
ID   AAC70713 standard; DNA; 121 BP.
XX
AC   AAC70713;
XX
DT   09-FEB-2001  (first entry)
XX
DE   Single nucleotide polymorphism containing sequence #181.
XX
KW   Single nucleotide polymorphism; SNP; human; genetic disease;
KW   disease susceptibility; cardiovascular system; endocrine system;
KW   neurological system; forensic testing; paternity testing; ds.
XX
OS   Homo sapiens.
XX
PN   WO200058519-A2.
XX
PD   05-OCT-2000.
XX
PF   30-MAR-2000; 2000WO-US08440.
XX
PR   31-MAR-1999;   99US-0127248.
XX
PA   (WHED ) WHITEHEAD INST BIOMEDICAL RES.
PA   (AFFY-) AFFYMETRIX INC.
XX
PI   Altshuler D,  Cargill M,  Daley GQ,  Ireland JS,  Lander ES;
PI   Lipshutz RJ,  Patil N,  Sklar P;
XX
DR   WPI; 2000-611722/58.
XX
PT   Nucleic acid selected from one of 106 genes comprising single
PT   nucleotide polymorphisms, allele-specific oligonucleotides to the genes
PT   are useful for phenotypic correlations, forensics, paternity testing,
PT   medicine and genetic analysis -
XX
PS   Claim 1; Fig 5; 214pp; English.
XX
CC   The present invention is concerned with a number of human single
CC   nucleotide polymorphisms (SNPs) which the inventors identified in human
CC   genes. These SNPs can be used in disease diagnosis and prediction of an
CC   individual's susceptibility to disease, in forensic and paternity testing
CC   and in genetic mapping. In particular, the SNPs of the invention can be
CC   used to diagnose susceptibility to diseases of the cardiovascular,
CC   endocrine and neurological systems, such as coronary artery disease,
CC   schizophrenia, cancer, autoimmune diseases, Alzheimer's and Parkinson's
CC   diseases.
CC   Note: The degenerate codon within the sequence represents the position
CC   of an SNP, for example the letter S represents a polymorphism where the
CC   nucleotide may be C or G.
XX
SQ   Sequence 121 BP; 27 A; 39 C; 31 G; 23 T; 1 other;

  Query Match             3.9%;  Score 105.6;  DB 21;  Length 121;
  Best Local Similarity   99.1%;  Pred. No. 1.5e-13;
  Matches  105;  Conservative    1;  Mismatches    0;  Indels    0;  Gaps    0;

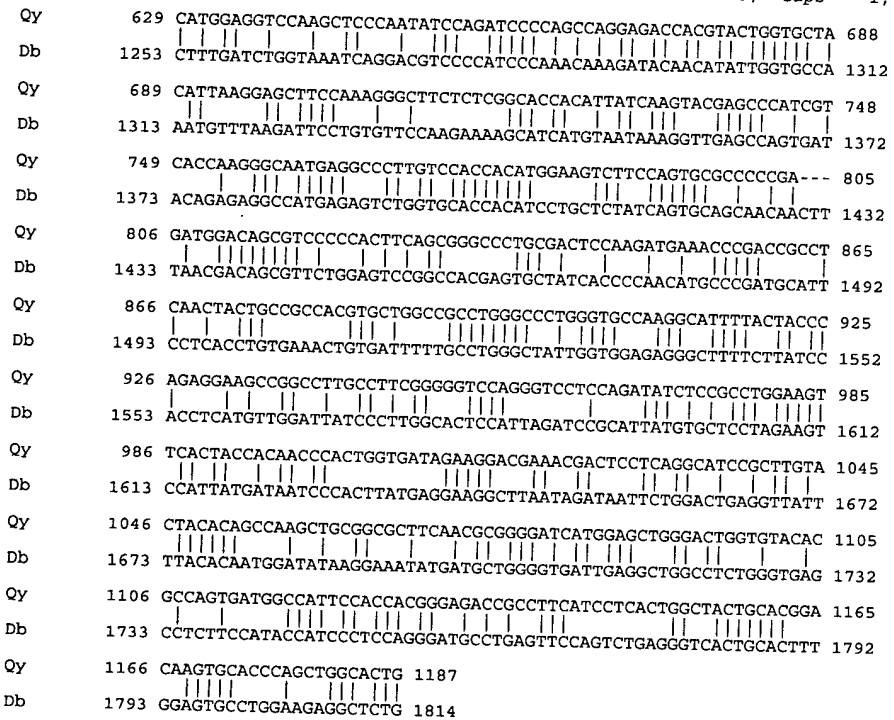
Qy        910 AGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCTTCGGGGGTCCAGGGTCCTCCAGAT 969
              |||||||||||||||||||||||||||||||:|||||||||||||||||||||||||||
Db          8 AGGCATTTTACTACCCAGAGGAAGCCGGCCTTKCCTTCGGGGGTCCAGGGTCCTCCAGAT 67

Qy        970 ATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGG 1015
              |||||||||||||||||||||||||||||||||||||||||||||
Db         68 ATCTCCGCCTGGAAGTTCACTACCACAACCCACTGGTGATAGAAGG 113


RESULT 36
AAX77118
ID   AAX77118 standard; DNA; 1920 BP.
XX
AC   AAX77118;
XX
DT   03-AUG-1999  (first entry)
XX
DE   GS-GC6 fusion protein encoding DNA.
XX
KW   Cellular senescence; modulator; GC6 gene; senescent gene expression;
KW   pGC6; human; fusion protein; ss.
XX
OS   Homo sapiens.
XX
PN   WO9925878-A2.
XX
PD   27-MAY-1999.
XX
PF   19-NOV-1998;   98WO-US24996.
XX
PR   19-NOV-1997;   97US-0974180.
XX
PA   (GERO-) GERON CORP.
XX
PI   Funk W;
XX
DR   WPI; 1999-347496/29.
DR   P-PSDB; AAY21557.
XX
PT   New human GC6 gene, useful for identifying agents for treating
PT   diseases and/or conditions associated with cell senescence
XX
PS   Disclosure; Page 29-30; 79pp; English.
XX
CC   The invention relates to methods for modulating and identifying cellular
CC   senescence. Recombinant expression vectors comprising a recombinant
CC   polynucleotide corresponding to a polynucleotide in a human GC6 gene, are
CC   useful for altering senescent gene expression. The vectors and host cells
CC   comprising the vectors are useful for identifying agents that prevent or
CC   modulate senescent gene expression. The polynucleotides are useful for
CC   producing the protein, pGC6 and nucleic acid derivatives. The proteins
CC   encoded are useful for raising antibodies specific for pGC6, which are
CC   useful for isolating pGC6, and for detecting cells comprising pGC6 in
CC   complex cell mixtures. The characterization of the polynucleotides enable
CC   the identification of therapeutic agents that identify and distinguish
CC   between young and senescent cells. This enables treatment of aging
CC   diseases induced or exacerbated by cellular senescence.
```

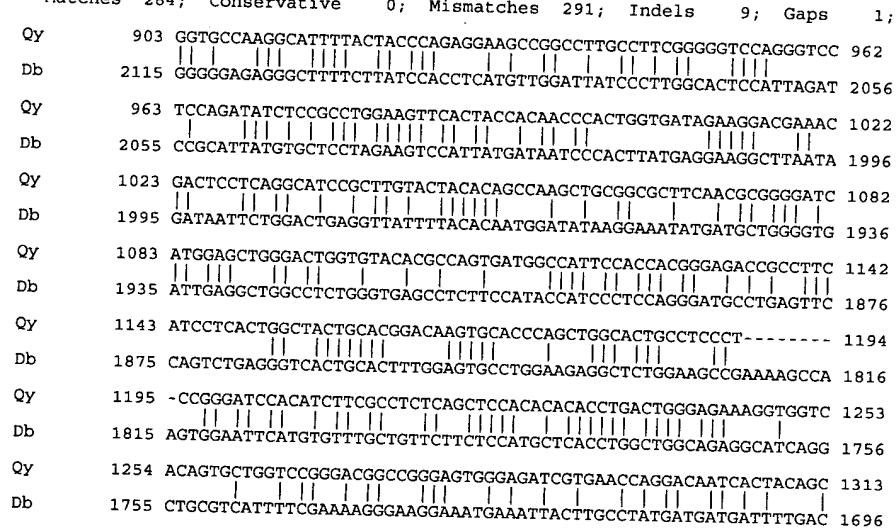
XX
SQ Sequence 1920 BP; 548 A; 393 C; 452 G; 527 T; 0 other;

Query Match 3.8%; Score 102.8; DB 20; Length 1920;
Best Local Similarity 50.2%; Pred. No. 1.2e-12;
Matches 282; Conservative 0; Mismatches 277; Indels 3; Gaps 1;



RESULT 37
AAI61359/c
ID AAI61359 standard; cDNA; 2115 BP.
XX
AC AAI61359;
XX
DT 22-OCT-2001 (first entry)
XX
DE Human polynucleotide SEQ ID NO 5348.
XX
KW Human; nootropic; immunosuppressant; cytostatic; gene therapy; cancer;
KW peripheral nervous system; neuropathy; central nervous system; CNS;
KW Alzheimer's; Parkinson's disease; Huntington's disease; haemostatic;
KW amyotrophic lateral sclerosis; Shy-Drager Syndrome; chemotactic;
KW chemokinetic; thrombolytic; drug screening; arthritis; inflammation;
KW leukaemia; ss.
XX
OS Homo sapiens.
XX
PN WO200153312-A1.
XX
PD 26-JUL-2001.
XX
PF 26-DEC-2000; 2000WO-US34263.
XX
PR 21-JAN-2000; 2000US-0488725.
PR 25-APR-2000; 2000US-0552317.
PR 09-JUL-2000; 2000US-0598042.
PR 19-JUL-2000; 2000US-0620312.
PR 03-AUG-2000; 2000US-0653450.
PR 14-SEP-2000; 2000US-0662191.
PR 19-OCT-2000; 2000US-0693036.
PR 29-NOV-2000; 2000US-0727344.
XX
PA (HYSE-) HYSEQ INC.
XX
PI Tang YT, Liu C, Asundi V, Chen R, Ma Y, Qian XB, Ren F, Wang D;
PI Wang J, Wang Z, Wehrman T, Xu C, Xue AJ, Yang Y, Zhang J;
PI Zhao QA, Zhou P, Goodrich R, Drmanac RT;
XX
DR WPI; 2001-442253/47.
DR P-PSDB; AAM42203.
XX
PT Novel nucleic acids and polypeptides, useful for treating disorders
PT such as central nervous system injuries -
XX
PS Claim 1; SEQ ID NO 5348; 10078pp; English.
XX
CC The invention relates to human nucleic acids (AAI57798-AAI61369) and
CC the encoded polypeptides (AAM38642-AAM42213) with nootropic,
CC immunosuppressant and cytostatic activity. The polynucleotides are useful
CC in gene therapy. A composition containing a polypeptide or polynucleotide
CC of the invention may be used to treat diseases of the peripheral nervous
CC system, such as peripheral nervous injuries, peripheral neuropathy and
CC localised neuropathies and central nervous system diseases, such as
CC Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic
CC lateral sclerosis, and Shy-Drager Syndrome. Other uses include the
CC utilisation of the activities such as: Immune system suppression,
CC Activin/inhibin activity, chemotactic/chemokinetic activity, haemostatic
CC and thrombolytic activity, cancer diagnosis and therapy, drug screening,
CC assays for receptor activity, arthritis and inflammation, leukaemias and
CC C.N.S disorders.
CC Note: The sequence data for this patent did not form part of the printed
CC specification.
XX
SQ Sequence 2115 BP; 694 A; 415 C; 427 G; 579 T; 0 other;

Query Match 3.3%; Score 90.4; DB 22; Length 2115;
Best Local Similarity 48.6%; Pred. No. 5.9e-10;
Matches 284; Conservative 0; Mismatches 291; Indels 9; Gaps 1;



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Qy       1314 CCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGGGAGATGTG 1373
Db       1695 TTCAATTTCCAGGAGTTTCAGTATCTAAAGGAAGAACAAACAATCTTACCAGGAGATAAC 1636

Qy       1374 CTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGGGGGGCTTC 1433
Db       1635 CTAATTACTGAGTGTCGCTACAACACGAAAGATAGAGCTGAGATGACTTGGGGAGGACTA 1576

Qy       1434 GGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCC 1477
Db       1575 AGCACCAGGAGTGAAATGTGTCTCTCATACCTTCTTTATTACCC 1532
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RESULT 38
ABL09098
ID ABL09098 standard; cDNA; 3483 BP.
XX
AC ABL09098;
XX
DT 26-MAR-2002 (first entry)
XX
DE Drosophila melanogaster expressed polynucleotide SEQ ID NO 21776.
XX
KW Drosophila; developmental biology; cell signalling; insecticide;
KW pharmaceutical; gene; ss.
XX
OS Drosophila melanogaster.
XX
PN WO200171042-A2.
XX
PD 27-SEP-2001.
XX
PF 23-MAR-2001; 2001WO-US09231.
XX
PR 23-MAR-2000; 2000US-191637P.
PR 11-JUL-2000; 2000US-0614150.
XX
PA (PEKE) PE CORP NY.
XX
PI Venter JC, Adams M, Li PWD, Myers EW;
XX
DR WPI; 2001-656860/75.
DR P-PSDB; ABB64995.
XX
PT New isolated nucleic acid detection reagent for detecting 1000 or more
PT genes from Drosophila and for elucidating cell signalling and cell-cell
PT interactions -
XX
PS Claim 1; SEQ ID NO 21776; 21pp + Sequence Listing; English.
XX
CC The invention relates to an isolated nucleic acid detection reagent
CC capable of detecting 1000 or more genes from Drosophila. The invention is
CC useful in developmental biology and in elucidating cell signalling and
CC cell-cell interactions in higher eukaryotes for the development of
CC insecticides, therapeutics and pharmaceutical drugs. The invention
CC discloses genomic DNA sequences (ABL16176-ABL30511), expressed DNA
CC sequences (ABL01840-ABL16175) and the encoded proteins
CC (ABB57737-ABB72072).
CC The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 3483 BP; 1036 A; 726 C; 747 G; 974 T; 0 other;

  Query Match   2.4%; Score 65.8; DB 23; Length 3483;
  Best Local Similarity   45.5%; Pred. No. 0.00015;
  Matches 275; Conservative   0; Mismatches 327; Indels   3; Gaps   1;

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Qy        886 TGGCCGCCTGGGCCCTGGGTGCCAAGGCATTTTACTACCCAGAGGAAGCCGGCCTTGCCT 945
Db       2088 TTGCAGTTTGGTCCTTGGGATCTGATGGACAGTTTCTACCTCCCCACGCAGGGATCCCAA 2147

Qy        946 TCGGGGGTCCAGGGTCCTCCAGATATCTCCGCCTGGAAGTTCACTACCACAACCCACTGG 1005
Db       2148 TGGGCGGAGCATCTGGAGTTAGCTATTATATGCTGGAAATACACTACGATAATCCCGATG 2207

Qy       1006 TGATAGAAGGACGAAACGACTCCTCAGGCATCCGCTTGTACTACACAGCCAAGCTGCGGC 1065
Db       2208 GAAAGGAATCGGTGGATCACTCC---GGTTTTCGAATACACTACACACCCAATCTGCGAA 2264

Qy       1066 GCTTCAACGCGGGGATCATGGAGCTGGGACTGGTGTACACGCCAGTGATGGCCATTCCAC 1125
Db       2265 CCTACGATTCCGGAATTCTAATAAGTGGTGTTTCCATTTCGGAAACGCAACTCATTCCGC 2324

Qy       1126 CACGGGAGACCGCCTTCATCCTCACTGGCTACTGCACGGACAAGTGCACCCAGCTGGCAC 1185
Db       2325 CTGGTCAAAAGAAGTATCGATCCGTCGGCATTTGTGGGCCGTCTTGTTCAAGCGTCATGT 2384

Qy       1186 TGCCTCCCTCCGGGATCCACATCTTCGCCTCTCAGCTCCACACACACCTGACTGGGAGAA 1245
Db       2385 TCCCAAAGGATGGTATTAAAATAATATCCGGAACGTTGCACTCACATCAAGCTGGTCGCA 2444

Qy       1246 AGGTGGTCACAGTGCTGGTCCGGGACGGCCGGGAGTGGGAGATCGTGAACCAGGACAATC 1305
Db       2445 CAATTAGTCTTCGACATGTTCGATCTGGTAAGGAGTTGAATCCGATCATTGTTGACGAAA 2504

Qy       1306 ACTACAGCCCTCACTTCCAGGAGATCCGCATGTTGAAGAAGGTCGTGTCGGTCCATCCGG 1365
Db       2505 ACTACGATTACAGGCACCAAAAAGTCCATCAGCTTGCCAATGAAACGGTCGTATTGCCAG 2564

Qy       1366 GAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGGCCACAGTGG 1425
Db       2565 GGGATTACCTAATTACAGACTGTTCCTATGAGACAAAGTACAGAAAACGACCCACATTCG 2624

Qy       1426 GGGGCTTCGGGATCCTGGAGGAGATGTGTGTCAACTACGTGCACTACTACCCCCAGACGC 1485
Db       2625 GGGGCTATTCCACGAAGGAGGAAATGTGTCTCACCTTTATTACTTATTACCCAAAGATTG 2684

Qy       1486 AGCTG 1490
Db       2685 AGATG 2689
```

RESULT 39
AAC70728
ID AAC70728 standard; DNA; 74 BP.
XX
AC AAC70728;
XX
DT 09-FEB-2001 (first entry)
XX
DE Single nucleotide polymorphism containing sequence #186.
XX
KW Single nucleotide polymorphism; SNP; human; genetic disease;
KW disease susceptibility; cardiovascular system; endocrine system;
KW neurological system; forensic testing; paternity testing; ds.
XX
OS Homo sapiens.
XX
PN WO200058519-A2.
XX
PD 05-OCT-2000.
XX
PF 30-MAR-2000; 2000WO-US08440.
XX
PR 31-MAR-1999; 99US-0127248.
XX
PA (WHED) WHITEHEAD INST BIOMEDICAL RES.
PA (AFFY-) AFFYMETRIX INC.
XX
PI Altshuler D, Cargill M, Daley GQ, Ireland JS, Lander ES;
PI Lipshutz RJ, Patil N, Sklar P;
XX
DR WPI; 2000-611722/58.
XX

PT Nucleic acid selected from one of 106 genes comprising single
PT nucleotide polymorphisms, allele-specific oligonucleotides to the genes
PT are useful for phenotypic correlations, forensics, paternity testing,
PT medicine and genetic analysis -
XX
PS Claim 1; Fig 5; 214pp; English.
XX
CC The present invention is concerned with a number of human single
CC nucleotide polymorphisms (SNPs) which the inventors identified in human
CC genes. These SNPs can be used in disease diagnosis and prediction of an
CC individual's susceptibility to disease, in forensic and paternity testing
CC and in genetic mapping. In particular, the SNPs of the invention can be
CC used to diagnose susceptibility to diseases of the cardiovascular,
CC endocrine and neurological systems, such as coronary artery disease,
CC schizophrenia, cancer, autoimmune diseases, Alzheimer's and Parkinson's
CC diseases.
CC Note: The degenerate codon within the sequence represents the position
CC of an SNP, for example the letter S represents a polymorphism where the
CC nucleotide may be C or G.
XX
SQ Sequence 74 BP; 18 A; 21 C; 20 G; 14 T; 1 other;

Query Match 2.3%; Score 63.8; DB 21; Length 74;
Best Local Similarity 94.2%; Pred. No. 0.00016;
Matches 65; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1357 TCCATCCGGGAGATGTGCTCATCACCTCCTGCACGTACAACACGGAAGACCGGGAGCTGG 1416
Db 2 TTCCTCAGGGAGATGTGCTCATCACCTCCTGCACGTACAACACRGAAGACCGGGAGCTGG 61

Qy 1417 CCACAGTGG 1425
Db 62 CCACAGTGG 70

RESULT 40
ABN42351
ID ABN42351 standard; DNA; 60 BP.
XX
AC ABN42351;
XX
DT 15-JUL-2002 (first entry)
XX
DE Human spliced transcript detection oligonucleotide SEQ ID NO:15099.
XX
KW Human; mouse; rat; splice transcript; detection; RNA transcript;
KW splice variant; transcriptome; oligonucleotide library; ss.
XX
OS Homo sapiens.
XX
PN WO200210449-A2.
XX
PD 07-FEB-2002.
XX
PF 20-JUL-2001; 2001WO-IB01903.
XX
PR 28-JUL-2000; 2000US-221607P.
PR 02-MAY-2001; 2001US-287724P.
XX
PA (COMP-) COMPUGEN INC.
XX
PI Shoshan A, Wasserman A, Mintz E, Mintz L, Faigler S;
XX
DR WPI; 2002-257383/30.
XX
PT New oligonucleotide libraries comprising oligonucleotides which
PT selectively hybridize to mRNAs transcribed from a transcription unit of
PT a genome, useful for detecting tissue-, pathology-, and
PT developmental-specific genes -
XX
PS Example 1; SEQ ID 15099; 47pp; English.
XX
CC The present invention describes oligonucleotide libraries for detecting
CC messenger RNAs that populate a (sub-)transcriptome, where the
CC (sub-)transcriptome comprises messenger RNAs transcribed from multiple
CC transcription units that populate a genome. The library comprises
CC several oligonucleotides, each capable of hybridising selectively to a
CC set of messenger RNAs transcribed from a given transcription unit of
CC the genome, which encodes one or more messenger RNA splice variants.
CC The oligonucleotide libraries are useful for detecting mRNAs from a
CC biological sample, in expression profiling studies, in qualitatively or
CC quantitatively characterising the corresponding transcriptome, and in
CC detecting RNA transcripts and splice variants of human or animal
CC transcriptomes. The libraries may also be used as specialised mini
CC libraries to detect transcripts of a sub-transcriptome under a
CC particular biological or pathological state, and so allowing the
CC detection of tissue- and pathology-specific genes such as those genes
CC only expressed in specific tissue under a specific pathological
CC condition; to detect developmental specific genes; and to detect RNA
CC transcripts and splice variants of a transcriptome of a patient suffering
CC from a particular disorder. ABN27253 to ABN59589 represent
CC oligonucleotide sequences from rats, humans and mice, which are used in
CC the exemplification of the present invention.
CC N.B. The sequence data for this patent did not form part of the printed
CC specification, but was obtained in electronic format directly from WIPO
CC at ftp.wipo.int/pub/published_pct_sequences.
XX
SQ Sequence 60 BP; 21 A; 17 C; 13 G; 9 T; 0 other;

Query Match 2.2%; Score 60; DB 24; Length 60;
Best Local Similarity 100.0%; Pred. No. 0.001;
Matches 60; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2409 GATATTTTCGCCCACCTAAAGGGAAGCCCTGACAACAACTATCACCAAAAGACGAGGCGG 2468
Db 1 GATATTTTCGCCCACCTAAAGGGAAGCCCTGACAACAACTATCACCAAAAGACGAGGCGG 60

Search completed: November 12, 2003, 23:11:32
Job time : 702 secs